PRINTING EQUIPMENT

• A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

The Needs of the MARKET

Taking the Industry into our Confidence

THE most important factor influencing the truly new graphic arts equipment of the future will be the actual requirements of the market. Basically the postwar market will be the composite needs of each printer and lithographer.

The evaluation of present equipment in plants (its type, its condition) in terms of the printing buyer's needs is fundamental. As equipment manufacturers, we gather the information for an over all viewpoint and appraise it in the light of our knowledge and past experience.

To ascertain the immediate postwar needs of the market, the Harris-Seybold purchase proposal program was inaugurated over a year ago. The information compiled from this survey will enable us, when the time comes, to do our planning and manufacturing, based on facts — not on mere opinions. Similarly, extensive product and market studies have been made to tell us the needs of the market in the long range postwar period.

New Harris-Seybold equipment will be released when product developments have been proved and market needs clearly established.

HARRIS • SEYBOLD • POTTER COMPANY

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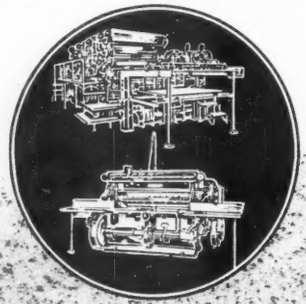
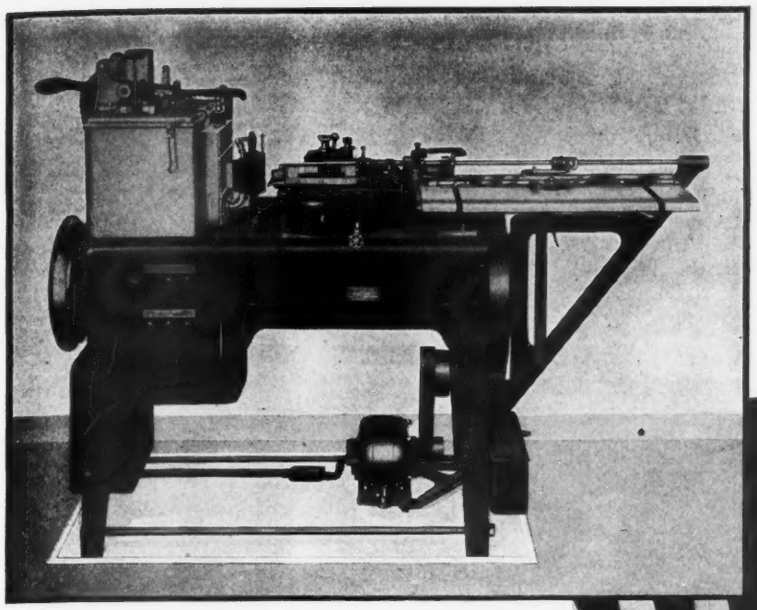
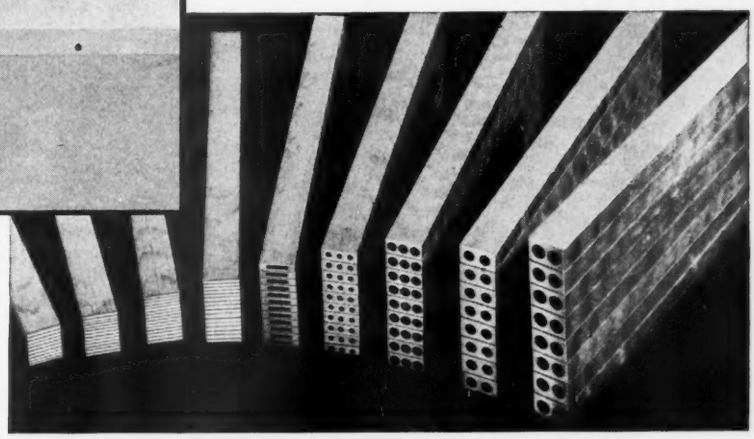




Showing wide range of Elrod strip material —uniform in thickness and height-to-paper —from 1-point to 36-point in thickness.



The Elrod *Ends Strip Material Shortages*

◆ Plenty of strip material is essential to efficient composing room production. When the compositor faces depleted material racks, and has to piece leads, slugs or rule, "pick" forms, or perhaps even distribute for enough material to finish a job—the result is an unexpected and unnecessary increase in production cost.

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◆ With this single machine can be produced uniformly accurate, high quality strip material, from 1-point to 36-point in thickness. Its great solidity enables it to withstand severe printing, electrotyping and stereotyping requirements. Elrod-cast strip is free from brittle breaks or welds.

◆ Elrod mechanism is simplicity itself, and its operation is correspondingly so, requiring minimum attention by the operator. Mold changes are easily made, and there is no complicated mechanism to get out of order.

◆ End your strip material worries now. With an Elrod, your compositors will always have a generous supply of material on hand when they need it. Ask us for full information.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14, Illinois

Set in members of the Ludlow Tempo family

TO HELP A BUSINESS MAN MAKE A BUSINESS DECISION

Know the facts before you act

YOU AND YOUR superintendent could easily make sound business plans for tomorrow, if you only knew what tomorrow would bring. You wouldn't find it hard to figure the production-hours required, if you knew your customers' and prospects' postwar printing plans.

Then, as business men, you'd determine how much of that load your present equipment could handle . . . how many production-hours of each kind of work you could count on . . . what gaps would have to be filled . . . what new or additional presses you'd need, and what kind.

These are facts you can find out. A sound business man will want to find them out *before* he buys anything. And he'll find out *now* . . . in time to do something about it.

We'll be glad to show you what facts to get, how to get them, and what to do with them. The ATF PLAN to help printers plan now for tomorrow's printing is a simple, practical, thoroughgoing method of analyzing your market and your facilities. It's working right now for hundreds of printers, and it's yours for the asking. Get in touch with the man who represents ATF, or write to us direct.

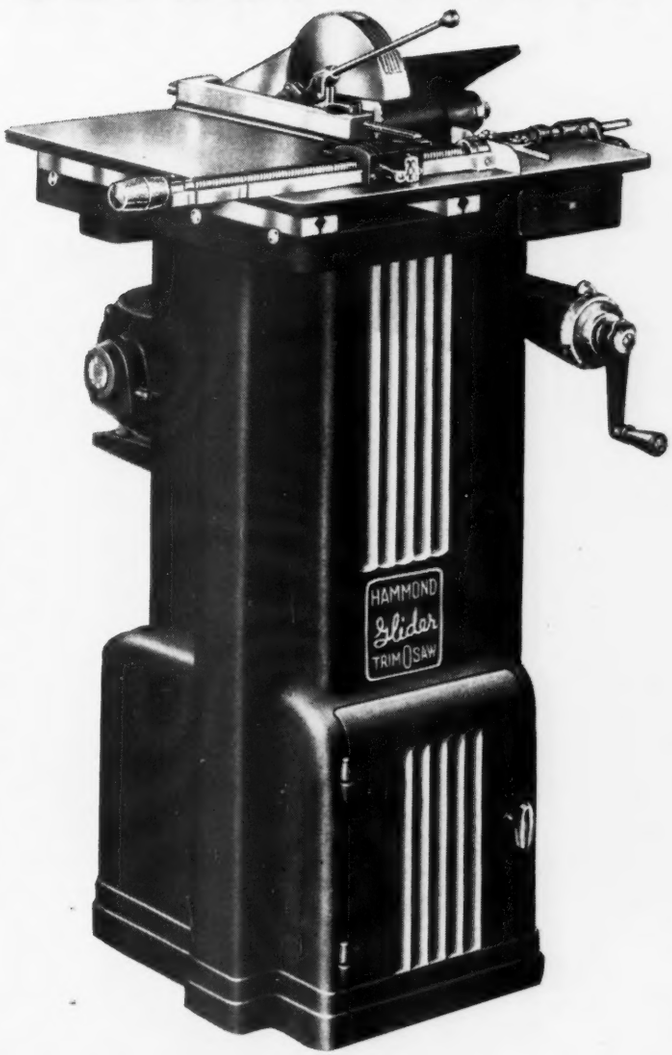
ATF

AMERICAN TYPE FOUNDERS • 200 Elmora Avenue, Elizabeth B, New Jersey

Hammond OF KALAMAZOO

Glider

DEPENDABILITY



The hundreds of users depending daily upon production accuracy in their sawing and trimming operations these past few years know the real meaning of Hammond Glider dependability.

This lasting accuracy is proof of the durability of Hammond construction features, which provide easy, quick, adjustable take-ups to maintain top performance at all times.

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War Time Maintenance

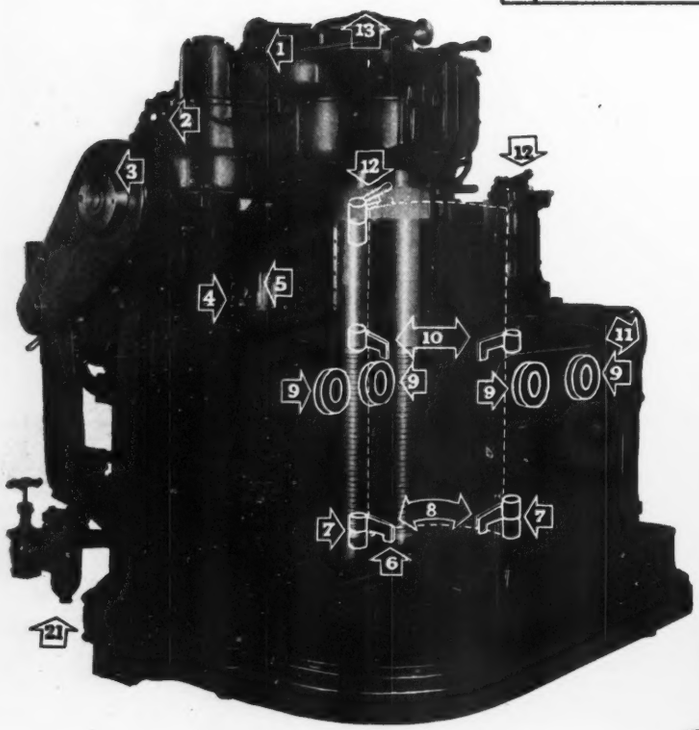
Wood
NEWSPAPER
MACHINERY

LUBRICATION OF AUTOMATIC AUTOPLATE

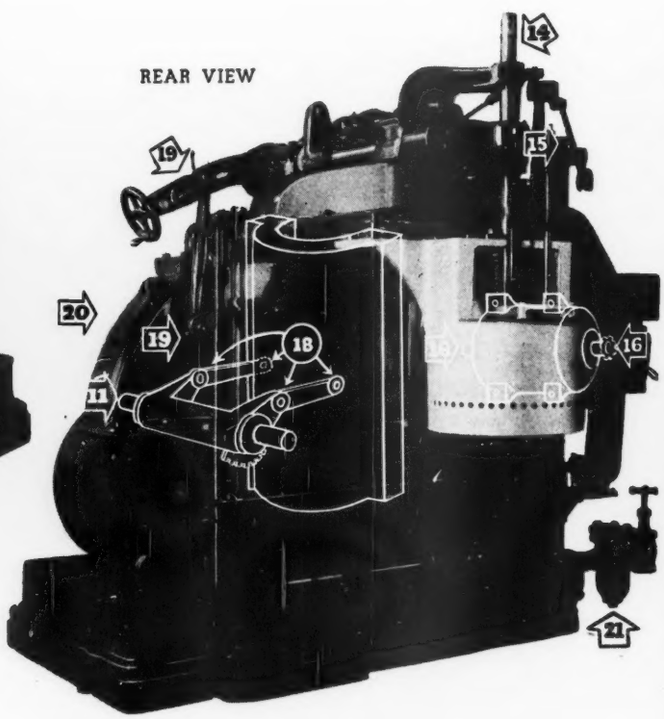
Follow this simple chart—to make sure of the thorough lubrication which is your most effective assurance of uninterrupted, peak operating performance.

No.	Part for Lubrication	Type	Period	No.	Part for Lubrication	Type	Period
1	Geneva Cam Roll	SAE 30	Daily	11	Camshaft Bearing	SAE 30	Daily
2	Driving Worm & Gear	600 W	Monthly	12	Matrix Holder Bar Levers, L&R	SAE 30	Daily
3	Barring Hub	SAE 30	Monthly	13	Counter	SAE 30	Daily
4	Cutting Saw	SAE 30	Daily	14	Pump Plunger Rod	SAE 30	Daily
5	Saw Hanger Ball Bearings	Grease	Daily	15	Pump Lever & Links	SAE 30	Daily
6	Cylinder & Segment Ring	SAE 30	Every change of mat	16	Motor	Grease	3 months
7	Lower Matrix Bar Brackets, L&R	SAE 30	Daily	17	Automatic Lubricater	SAE 30	Keep Full
8	Lower Plate Fingers, L&R	SAE 30	Daily	18	Casting Box Toggle Links	SAE 30	Weekly
9	Casting Box Rolls Ball Bearings, L&R	Grease	½ yearly	19	Pump Adjusting Lever	SAE 30	Daily
10	Upper Plate Fingers, L&R	SAE 30	Daily	20	Casting Box Gear	600 W	Weekly

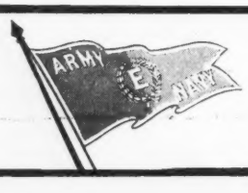
FRONT VIEW



REAR VIEW



The Separator-Strainer (Part No. 21 on the diagram) should be cleaned out thoroughly in water once a month.



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PRINTING EQUIPMENT *Engineer*

Volume 69 Number 4

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BUSINESS STAFF

DON WILL, Publisher

E. P. Bloomster, Western Representative
232 East Erie St., Chicago 11, Ill.
Phone SUperior 2444.

EDITORIAL STAFF

MacD. SINCLAIR
Editor

ADAM HENRI REISER
Associate Editor

HERMAN SLATER
Associate Editor

★

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1945

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TECHNICAL BOOKS

STANDARD BOOK ON ESTIMATING for PRINTERS—By Fred W. Hoch. Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.

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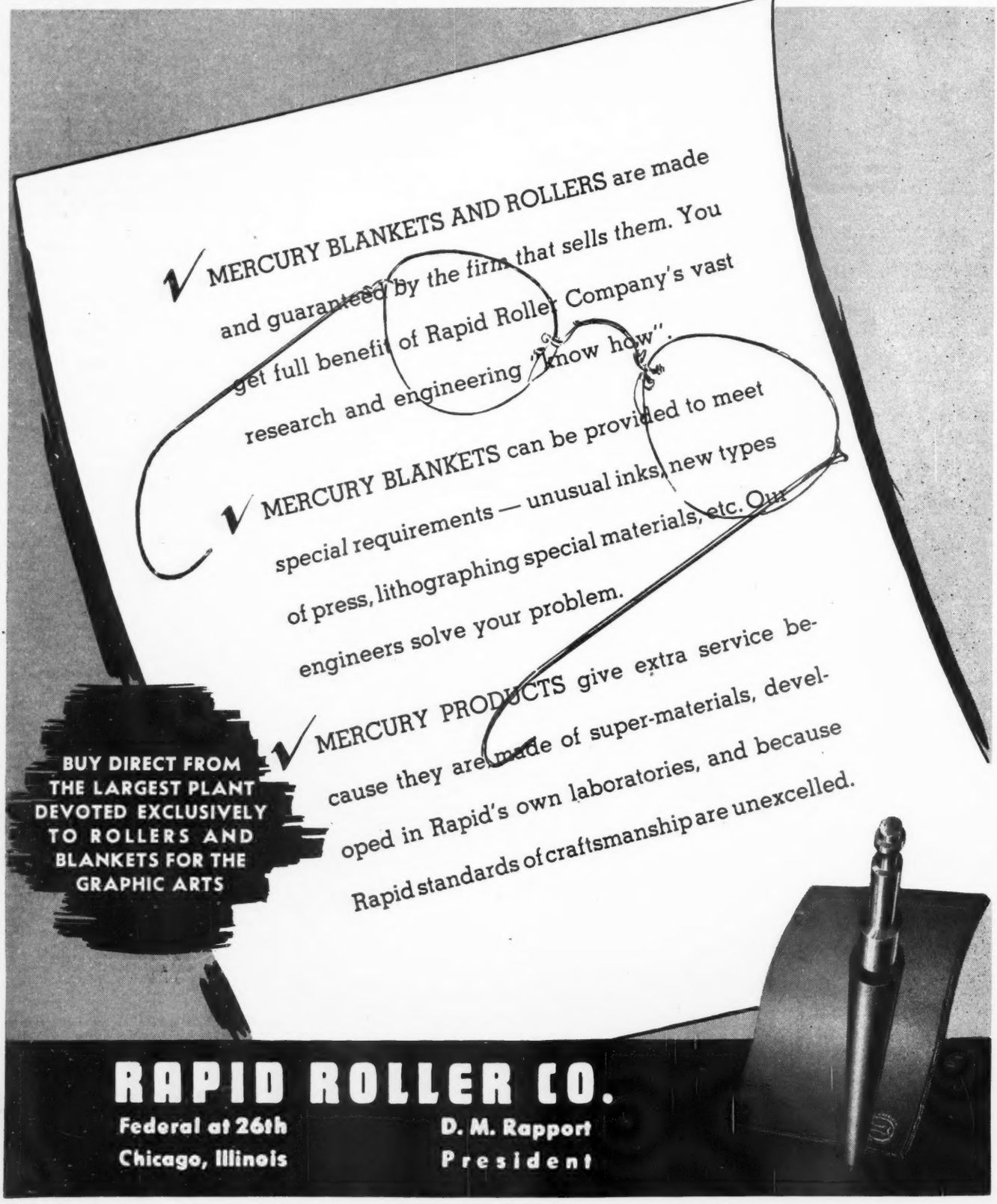
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✓ MERCURY PRODUCTS give extra service because they are made of super-materials, developed in Rapid's own laboratories, and because Rapid standards of craftsmanship are unexcelled.
BUY DIRECT FROM THE LARGEST PLANT DEVOTED EXCLUSIVELY TO ROLLERS AND BLANKETS FOR THE GRAPHIC ARTS

RAPID ROLLER CO.

Federal at 26th
Chicago, Illinois

D. M. Rapport
President

Men of Monotype

ARE MEETING THE NATIONAL EMERGENCY

Our Case Is Typical

We believe that printers and publishers everywhere are interested in knowing how Monotype and other printing machinery manufacturers are meeting the requirements of the Allied armed forces in the production of War material and at the same time are endeavoring to furnish the parts and supplies which are needed to keep essential equipment in continued operation.

For this reason we are reprinting here the text of a letter written to Monotype employees by Harvey D. Best, Chairman of the Board, and mailed to employees at Christmas time. While the letter refers specifically to the efforts of Men of Monotype to meet our national emergency, we know that manufacturers of printing machinery and supplies everywhere are striving earnestly to serve the nation's needs and to help their customers insofar as they are able to do so. What we are doing at Monotype is typical of the entire machinery and supply industry.

LANSTON MONOTYPE MACHINE COMPANY

Monotype Building, 24th and Locust Streets, Philadelphia 3, Penna.

Buy War Bonds Now

December 21, 1944.

To All Employees of
Lanston Monotype Machine Company

At this Holiday Season I want to express to every one of you the very genuine appreciation of the Management of the services you have rendered to the War Program and to the Monotype Company.

You have worked long hours and at many times under the difficult conditions resulting from the orders of the U.S. Government issued in March, 1942, completely freezing and prohibiting our production of commercial machines of any kind other than those being supplied to the various war agencies. The nature of the War Production work has been such that factory departmental machine tool operators skilled in the work of their own departments have accepted temporary transfer to other departments and classes of work. We have thus been able to utilize the full capacity of the man-power in the Monotype plant.

Our stock of replacement parts is now becoming exhausted. It continues to be the policy of the Company that we are obligated to any owner of any machine of Monotype manufacture to make certain none of these machines shall be put out of operation because of the lack of replacement parts. The Management particularly appreciates the willingness of the workers to meet delivery emergencies through the working of overtime far in excess of what should be expected of any employee. You have worked on Sundays and extra overtime at nights to make it possible for the Company to meet the requirements of its existing machine customers and by so doing have made it also possible to maintain our scheduled war deliveries.

The Management is sure that the Company will have the full cooperation of all of the members of our organization not only in the carrying out of our obligations to existing customers but also in the meeting of our delivery schedules on the important and urgent manufacture of secret airborne instruments now in hand. As all of you know, Philadelphia is a critical labor area and even the highest rated war manufacturing plants are operating under limitations imposed by the U. S. War Manpower Commission covering the total number of employees permitted. Military services estimate that urgent war production in the Philadelphia area requires as of today more than 18,000 additional skilled shop workers. Therefore, all manufacturers must work under labor ceilings. Monotype is as of today in need of 150 additional shop workers, but is already operating with the maximum number of employees permitted by Government agencies.

We are looking forward to the day when Peace will come. Monotype employees need have no fear of lack of jobs at the conclusion of our war production. Jobs are here for all of you and for many more, and our need for an increased number of workers will surely continue after the end of the war.

(Signed HARVEY D. BEST)

For 52 Years Manufacturer of MONOTYPE Type-Setting, Type-Casting and Strip-Material Making Machines; for 12 Years, [MONOTYPE-HUEBNER Overhead Cameras, Photo-Composers, Plate Coaters and other Equipment for Lithographic Plate-Making

Composed in Monotype 20th Century Family, Stylescript and Typewriter 72L

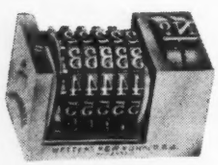
We hate to say "wait" to our customers

Some day triple "A" priorities will no longer affect our production schedules. It will be a day in which all will take great satisfaction. For it will be the day when war-time delays and postponements will no longer be necessary in filling your orders for Wetter Numbering Machines.

We pledge as soon as that day comes our machines will once again go to our regular customers in full demand-supplying quantities . . . that our policy of "first come, first served" will once more apply unrestrictedly to commercial orders.

We don't have to wait, however, to thank our customers for the understanding they have shown. We believe that their confidence in us will prove merited and, after all their patient waiting, they will be served by new Wetter Numbering Machines improved through our war-heightened skills.

"Numbering for Profit" will be an even more sound keynote for post-war printers than it was in pre-war days.



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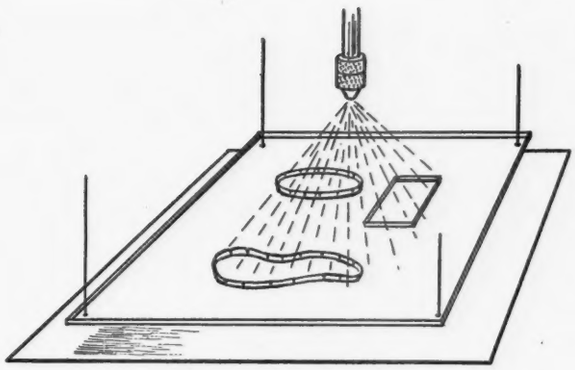


Spatter Printing . . .

Its possibilities for the smaller printer in postwar period

By HERMAN A. SLATER

MULTI-COLORED decorations produced by spraying certain sections of a freshly printed sheet with a quick-drying solution is not a new process. This writer, however, has not seen work of this type produced on a large scale. As early as 1924 the process was being used in Europe as a competitive method for obtaining two or more color jobs with only one printing. The use of stencils of varied designs were employed to further enhance their work. A machine consisting of chains and cams operated the sprays, the nozzles being controlled by valves, which were opened and closed intermittently as the printed sheets were delivered.

With the increasing use of no-offset spraying devices in recent years in the United States, it should be easy for printers to recognize the possibilities of spatter printing both with reference to the sales angle and as a profit maker. Circulars, magazine covers, greeting cards, brochures and many other printed pieces could receive this treatment with very little added expense. For example, brown ink could be run on the press and a green solution sprayed on the printed sheet in designated spots to create emphasis to that particular portion of the sheet.

The first thought that comes to our mind is the preparation of the materials that go to make up the process. Several acetate and hydrocarbon solutions have been tried without success due primarily to the fact that gas heat cannot be applied to the sheet on account of the inflammable properties of these liquids. Furthermore, these same solutions have a tendency to clog the spraying apparatus.

Thus, it would seem that the ideal solution would be one that is inflammable and does not contain any resinous substance which would tend to gum up the spray apparatus. However, since spatter printing is as yet in the experimental stage in America, we must resort to experimental methods and mixtures to obtain the necessary bright colors and also the proper drying ingredients to prevent offset.

One procedure in conducting trial and practice tests produced an attractive piece of printing in two colors. Black ink was run on a small cylinder press and the spray gun tank was filled with a brilliant orange mixture. The mixture was made up as follows:

3 oz. orange
and
1 oz. red ruling-ink powder dissolved in
½ pt. distilled vinegar
Then separately from the foregoing, dissolve
¼ oz. flaked shellac in
½ gal. high-grade denatured alcohol

These two mixtures should be prepared in the morning, being sure to use only glass vessels. Shake occasionally during the day and let both mixtures stand over night.

Next morning, combine the alcohol and vinegar mixtures and filter through a paper filter placed in a glass funnel, being careful not to disturb the sediment in the vinegar mixture.

The green solution mentioned previously is prepared in the same manner with 3 oz. green ruling-ink powder added to the vinegar. Many colors can be obtained by mixing different shades of ruling-ink powder in varied amounts according to the color strength desired.

It must be remembered that nearly all no-offset spray solutions contain starch, gum arabic, etc. Therefore, the entire mechanism, including tank, hoses and nozzle should be thoroughly cleaned with hot water before pouring the orange liquid into the tank. Unless two sprays with separate tanks are available we, of course, lose the benefits of the no-offset equipment during the time the equipment is being used for spatter printing.

The effects and designs we may obtain on the printed sheet are governed only by the adjustments on the nozzle. The nozzle must be as close to the printed sheet as the mechanism on most deliveries will permit, say about 12 to 14 in., and the spray adjusted to a narrow stream so as to force as many coarse particles of the liquid to the sheet as possible. Fan-shaped streams from the spray nozzle should be avoided entirely because very little liquid would be transmitted to the sheet and a pattern with little color would result.

A small piece, say 6 in. square, of fine wire mesh suspended 2 in. under the nozzle will create an interesting pattern according to the size of the openings in the mesh, usually one-eighth to one-half inch holes. As mentioned before, stencils of many patterns may be cut from any thin sheet metal (0.020 thick) and placed close to the work, permitting the mist to penetrate the cut-out areas. The edges of the open areas in the stencil must be flanged to a depth of ¼ in. and a drain provided for the surplus liquid to drain off the stencil at one side. The flanges, of course, project upwardly. The overall size of the cut-out portion of the stencil must not be larger than the spray stream.

Spatter printing should find its place among many other new developments in the post-war era, mainly among small printers where the cost of a two-color job is many times prohibited due to the cost of the plates.

by ALEX J. ALBERG*

*Manager of Printing, Unity School of Christianity, Kansas City, Mo.

EDITOR'S NOTE: In many printing plants, the mechanical executive is not always certain about the prerogatives which ought to go with his job and his responsibilities. Consequently, he is not in a position to function 100% as an executive. How can he do so when he is not mentally at ease? *Printing Equipment Engineer* doesn't know of a finer thing in plant executive relationships than that in which each departmental foreman *knows* exactly what his prerogatives are.

When visiting a printing plant for the first time, one can sense without being told just about what the status of executive relationship is in that plant. Old Man Confidence is the important thing—always has been and always will be. In plants where executive relationships are what they ought to be, the feeling of confidence is reflected by every individual in the plant.

We feel our readers will appreciate knowing about the manner in which the executive relationship problem in one printing plant has been handled. For that reason, we are printing below the Chart of Executive Duties prepared by Mr. Alberg. In publishing this list, we also feel that it will be the means for helping many executives to a better understanding of their problems.

The duties and prerogatives of the Composing Room Foreman are republished here from the September 1944 issue of *Printing Equipment Engineer*. We do this because it is important that the Chart be as complete as possible for reference purposes.

It will be noticed that in the outlined duties of the Superintendent Mr. Alberg has divided them into two separate headings—purchasing and production. In the larger plants, of course, these would be two distinct departments. But in the average shop they can be combined. The duties of the cylinder press foreman and the job press foreman are similar in nature and in some plants are handled by one man.

SUPERINTENDENT

PURCHASING

1. Meets salesmen from supply and equipment houses.
2. Places orders for all materials and equipment.
3. Purchases all engraving work and electrotypes for Printing Department.
4. Standardizes all supplies and materials used in various departments.
5. OK's all bills for materials, equipment.
6. Obtains information from supply firms as to their ability to furnish materials and equipment.
7. Keeps complete record of all orders placed.
8. Makes annual contract for paper stock for all publications after conferring with management.
9. Keeps informed on market conditions on all materials used in Printing Department.
10. Places orders for printing and binding to be done outside of plant.

PRODUCTION

1. Plans methods of handling work and confers with foremen in regard to most economical and efficient way to produce the work.
2. Puts final OK on all press proofs.
3. Keeps record of progress of jobs and publications.
4. Familiarizes himself with print shop processes and equipment.
5. Reads trade journals and magazines in search of new ideas.
6. Supervises the employing and discharging of all help in the shop.
7. Sees that there is a supply of all needed materials on hand, such as paper, ink, etc.
8. Determines the adaptability of materials to the job.
9. Plans efficient arrangement of floor space.
10. Supervises the receiving department.
11. Supervises the work of the bindery, composing room, cylinder and job press rooms, and stock cutter, and layout department.
12. Holds conferences with departmen heads.
13. Keeps the production process up t standard and approves any change i operation method suggested by fore men to secure increase in productio
14. Supervises making up of payroll.
15. Reports to office all accidents to em ployees.
16. Responsible for working conditions i the plant and morale of personnel.
17. Supervises the training of apprentice and breaks in new foremen.
18. Adjusts misunderstandings betwee Printing Department and other de partments.
19. Handles requisitions for all depar ments.
20. Obtains information about substitute when and where they can be secure and used.
21. Submits substitutes of materials fo customers' approval.
22. Attends publication and other confer ences with other departments.

SECRETARY TO SUPT.

1. Takes dictation and transcribes note
2. Handles incoming and outgoing call
3. Keeps correspondence and misce laneous files.
4. Meets all callers and relays message t Superintendent or has them see hi personally.
5. Keeps record of each job from the tim it is ordered until it is completed.
6. Posts daily record of progress of a jobs through plant.
7. Enters information from Daily Report from various departments on job re ord sheets, making note if completio date in each department is not met an informing Superintendent of same.
8. Checks daily time tickets and check daily production reports on all printin and reports to Superintendent any tha may be behind date scheduled fo completion.
9. Types and mails all purchase order and keeps file of duplicate copies.
10. Checks receiving slips with purchas orders to see that right amount an kind has been received.
11. Checks invoices with purchase order and enters items and price in per petual inventory record.
12. Requisitions all office supplies used i printing office.
13. Furnishes accounting department wit material requisitions, listing all ma terials used on jobs as they are fi ished, having all completed job closed out by last day of each month
14. Keeps perpetual inventory of all stock ink, etc., used in printing jobs.
15. The first of each week makes a list o jobs that are due to be printed during that week; turns this list over to Su perintendent.

LAYOUT DEPARTMENT

Directly Under Superintendent

1. Takes all orders for printing of jobs and publications.
2. Meets customers and obtains complete information before job is started.
3. Sees that all publication copy is received on time and checks copy for size and style of type and confers with editors and advertising department regarding copy, and suggests style of type and typographic design.
4. Plans typographic design of job to suit customer, and makes working dummy when necessary.
5. Recommends kind, size and weight of paper; submits sample of paper and color proofs to customer.
6. Considers possibilities of presses and folding machines when laying out work.
7. Secures job ticket and number on all jobs and publications.
8. Makes out necessary work tickets for all departments on all jobs and publications, giving detailed information so that job may be efficiently and economically produced.
9. OK's position and register on all press proofs from job press rooms.
10. Assumes duties of superintendent in his absence.
11. Distributes copy, with instructions for setting, to composing room foreman.
12. Distributes work tickets and copy of jobs and publications to the various department heads.

COMPOSING ROOM

Foreman

1. Interpret and follow job instructions.
2. Route work through composing room.
3. See that cuts are on hand and meet the requirements of the job.
4. Supervise the lockup of forms.
5. Check up the imposition of forms.
6. See that proofs of all jobs and publications are delivered to the proper persons on schedule.
7. Check proofs and see that corrections are made.
8. Supervise the storing of cuts and plates; also type for future editions.
9. See that sufficient and proper materials are on hand.
10. Collect and check daily time tickets.
11. Make a daily record of progress of jobs.
12. Recommend purchase of equipment.
13. Requisition supplies and repairs and replacements for the department.
14. See that all cuts are in good condition before forms are sent to pressroom.
15. See that all work done on jobs is charged to proper operation number.
16. Have compositor make all changes in forms on presses.
17. Supervise routing of copy and proofs to typesetting machines, hand compositors, and proofreaders.
18. Supervise compositors, machine operators and proofreaders.
19. After consulting superintendent, hire or discharge help for department.
20. Confer with employees in regard to grievances and confer with superintendent if unable to arrive at satisfactory solution.
21. Train apprentices.
22. Suggest method of operation changes to increase production.
23. Make recommendations for wage increases.
24. Take a personal interest in the employees in department.
25. Know the company's policies.

JOB PRESS

Foreman

1. Plans and schedules the work of his department with the Superintendent.
2. Sees that jobs are received and leave pressroom on schedule.
3. Interprets job tickets and other instructions.
4. Assigns pressmen and helpers to the various presses.
5. Sees the paper and ink stock are on hand for each job before forms reach pressroom.
6. Submits proofs to layout man for OK on position and register, and to proofreader for OK.
7. Submits make-ready press proofs to Superintendent for final OK.
8. Sees that forms are properly locked up.
9. Mixes ink.
10. Checks the matching of colors.
11. Checks pressmen's report on ink and stock and notes all spoilage.
12. Prepares and supervises the make-ready on job presses.
13. Sees that all work is charged to the proper operation number.
14. Checks with the men of his department to see that work is satisfactorily done.
15. Keeps a record of the inks used on jobs—color and number.
16. Sees that presses are properly oiled and cared for and washed up.
17. Suggests ideas for improvement of quality or quantity of work.
18. Requisitions supplies for his dept.
19. Recommends changing rollers and requisitions new ones when needed.
20. Adjusts automatic feeders and makes minor repairs on them.
21. Makes a daily record of progress of the jobs and turns it over to the Superintendent.
22. Collects and checks the daily time tickets, and delivers them to the Superintendent for entry on payroll sheets.
23. Takes annual inventory.
24. Recommends the employing and discharging of employees in his department.
25. Instructs and trains apprentices.
26. Reports and repairs breakdowns or difficulties with presses.
27. Confers with other department heads to keep jobs operating smoothly.
28. When requested, makes estimates of time for running presses on jobs.
29. Reads trade journals and keeps himself informed of new developments in equipment and processes.

CYLINDER PRESS

Foreman

1. Plans and routes work of his department with Superintendent.
2. Keeps jobs moving on schedule.
3. Interprets job tickets and other instructions.
4. Assigns pressmen and helpers to the various presses.
5. Sees that paper and ink stock for each job to be run is on hand before forms reach pressroom.
6. Supervises the making of overlays.
7. Submits make-ready press proofs to the Superintendent for final OK.
8. Sees that forms are properly locked up.
9. Mixes ink.
10. OK's when matching color.
11. Checks and OK's pressmen's record of ink and all stock and notes on spoilage.
12. Sees that all work is charged to the proper operation number.
13. Checks up work of the men to see that it is satisfactory and meets all specifications and standards.
14. Keeps a record of the inks used on jobs—color and number.
15. Sees that presses are properly oiled and cared for and properly washed up.
16. Suggests ideas for the improvement of quality or quantity of work.
17. Requisitions needed supplies for the pressroom.
18. Decides when rollers are to be changed and requisitions new ones.
19. Makes daily record of progress of jobs and turns it over to Superintendent.
20. Gives requisitions for kind and amount of ink to be used and sees that it is in pressroom on time.
21. Takes annual inventory.
22. After consulting Superintendent, employs and discharges all help in his department and makes recommendations for health and welfare of his employees.
23. Supervises the training of apprentices.
24. Reports and has repaired breakdowns or difficulties with equipment.
25. Makes minor repairs and adjustments on automatic feeders.
26. When requested, estimates length of time required to run a job.
27. Confers with foremen of other departments when necessary to coordinate and expedite uninterrupted and prompt flow of jobs through the Printing Department.
28. Keeps up to date on new equipment and processes.

BINDERY AND MAILING

Foreman

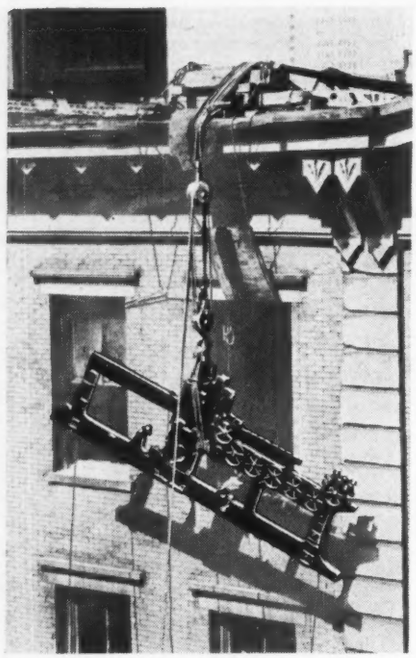
1. Plans and schedules work of his department with the Superintendent.
2. Sees that jobs are received and leave bindery on schedule.
3. Interprets job tickets and other instructions.
4. Lays out work such as folding, stitching, mailing, etc.
5. Trains new employees.
6. Requisitions all needed supplies.
7. Sees that sufficient amounts of materials are on hand to complete jobs.
8. Makes daily record of progress of jobs and turns in to Superintendent.
9. Sees that work is delivered to the proper press when completed.
10. Checks work to see that it is properly done.
11. Sees that work is charged to the proper operation number.
12. Recommends the employing and discharging of employees in his department.
13. Keeps record of mailing girls' production to conform to the incentive plan.
14. Takes annual inventory.
15. Collects and checks daily time tickets and delivers them to Superintendent for entry on payroll.
16. Suggests ideas for improvement of quality or quantity of work.
17. Reports immediately breakdowns or difficulties to Superintendent.
18. Keeps informed of new developments in equipment and processes.
19. Sees that all magazines are mailed on schedule.
20. When requested, estimates length of time to finish job.
21. Confers with Superintendent and Supervisors of other departments to augment the maintenance and smooth operation of the schedules.

INTERESTING STORY...

about wartime printing equipment scrap plan — 2500 T. of obsolete machinery scrapped to make war equipment

LAST month, Miller Printing Machinery Co., Pittsburgh, announced discontinuance of its Wartime Scrap Allowance Plan. Under the plan, owners turned in obsolete, useless or idle printing equipment for conversion into material for making war equipment.

The Miller Printing Machinery Company, in discussing results of the operation of its Plan states that almost $25,000 worth of U.S. War Bonds were sold under Option No. 2 of the Plan within the first 18 months. All sorts of old machinery was scrapped including platens, cylinder, rotary and offset presses, as well as platemaking, bindery and typesetting equipment.



This happened in New York, N. Y. Printer, wrecker and trucker cooperated under the Miller Wartime Scrap Allowance Plan to get several obsolete presses onto the national scrap pile so that the metal could be used for armament manufacture. Because of the condition of the building, the presses could not be smashed on the top floor so they were disassembled and the sections were lowered with block and tackle to a truck on the ground below.

A variety of Graphic Arts plants participated in the Miller Wartime Scrap Allowance Plan. Among them were manufacturers of book matches, greeting cards, books, commercial printing, magazines, newspapers, labels, boxes, printed specialties, price tickets, lithographed and engraved specialties, and other products.

The Miller Wartime Scrap Allowance Plan provided two options which could be exercised by the owner wishing to dispose of equipment. Under Option No. 1, a printing concern could scrap its old printing machinery, retain the cash scrap value of the old equipment and receive a Miller Credit Certificate for two times the scrap value which might be applied towards the purchase of new presses after the war. Under Option No. 2, the printer could scrap his old printing machinery with the additional incentive that if U.S. War Bonds were purchased with the money received as scrap value for the old machinery, the Miller Printing Machinery Co. would give that company a Miller Credit Certificate for three times the scrap value of the old machinery.

Objectives of the Plan were fourfold: (1) Scrap metal needed to make armament was provided; (2) Obsolete printing equipment was eliminated which, if resold, might have become a menace to the standards of the industry; (3) Participating printers set up a reserve in the form of Credit Certificates for postwar rehabilitation, and (4) Unneeded equipment was liquidated for its maximum cash scrap value.

An executive of the Miller Company reports that nearly 400 inefficient machines were converted to scrap metal for defense of the nation. Removal of this obsolete machinery will assist in stabilizing the postwar equipment market. In some respects, states the Miller Company, it parallels present efforts of trade organizations to prevent dumping of excess U.S. Government printing equipment on the market after the war.

Some of the reports received from executives of companies participating in the Plan are as follows:

One printing company in Michigan scrapped a magazine press and a cylinder press under this Scrap Plan; sold two other newer presses and consolidated its remaining equipment into one side of the plant and rented the other half to a tool and die company for the production of war materials.

A label company executive remarked: "We scrapped our old equipment to help the war effort by aiding the scrap drive and because the old equipment was not as efficient as the new and modern presses we will install after the war."

A printer in New York, upon being refused permission by his landlord to crack up his old presses on the top floor of the building, partially disassembled the presses to be scrapped and lowered them piece by piece to a truck waiting below. Cooperation of printer, landlord and trucker, figured in this awkward process to get the old presses into the scrap heap.

Reported one printing executive: "The big cylinder which we scrapped under the Miller Wartime Scrap Allowance Plan had a capacity for too-large jobs, occupied a still larger floor area—and I mean *large*—and was invariably charged with a loss on each job it produced due to its slowness and obsolete design."

Another plant executive in Plymouth, Mass., said: "It was about 1906 that this press came into our possession. My father and uncle had just built a new building to which they moved and the old press was one of the proud possessions. I sort of grew up with this press, later learning to operate it and coming to know all the annoying habits it had acquired in its old age. I didn't want to sell the press for continued use but when the Miller Scrap Allowance Plan was announced, sentiment gave way to the country's need for metal. I junked the press, used the junk money to buy War Bonds and received a Credit Certificate in turn. The plan channeled scarce metals into war materials and took obsolete equipment off the market which would otherwise be a competitive hazard."

There were a number of benefits to the war effort in the 2500 T. or 5,000,000 lbs. of old printing machinery which went to the scrap pile. Steel generally is made by melting approximately 50% pig iron and 50% scrap. Scrap shortens the refining process and also is cheaper than pig iron. There are but few blast furnaces capable of producing scrapless steel—nowhere near enough to supply the wartime need.

For every ton of pig iron, 2 T. of iron ore are required plus 1.2 T. of coal and about ½ T. of limestone and other materials like flourspar, in small amounts. Therefore, in addition to the tonnage of scrap metal contributed there were saved about 5000 T. of iron ore, 3000 T. of coal, 1250 T. of limestone and other materials proportionately, besides relieving mining, transportation and handling facilities. Obviously, the old printing machinery has served a good purpose.

A Miller executive states that "The Wartime Scrap Allowance Plan was discontinued only after thorough consideration and consultation with WPB scrap salvage authorities. Also that if the demand for scrap metal should arise and it is sincerely hoped the need does not arise, the Miller Wartime Scrap Allowance Plan may again be put to work."

C. & P.'s Report on War Effort

Replete with official U.S. Signal Corps' U.S. Air Forces and U.S. Navy photographic reproductions, The Chandler & Price Co. has published a booklet, showing how the company's products have entered into the war effort. The booklet consists of 12 pages, 8½ in. by 11 in.

In the publication is explained that in common with other industrial organizations, Chandler & Price swung quickly into war production. It left off its well known civilian pursuit of manufacturing presses and paper cutters.

Most of the pages are pictorial with brief comment to show how the company's products entered into the manufacture of fighting equipment which is used in many parts of the world.

The war pictures are excellent and have been excellently reproduced in the booklet which is comprehensive in explanation of what The Chandler & Price Co. currently is doing.

Harris-Seybold-Potter Company Receives Army-Navy "E"

Both the Harris and the Seybold Divisions of the Harris-Seybold-Potter Company recently received separate Army-Navy "E" Awards. Suitable ceremonies, in which plant employees participated were held by both Divisions—the Harris Division at the Cleveland plant and the Seybold Division at the Dayton (O.) plant.

Left to right, in this picture taken at the Harris plant in Cleveland, are: Chairman of the Board R. V. Mitchell, President A. S. Harris, and Employees Edward Waldeck, John Kickel and Joseph O. Jones.

THE Harris-Seybold-Potter Company, whose home offices are in Cleveland, received Army-Navy "E" awards for both its plants. The Harris Division at Cleveland received its "E" on December 11, and the Seybold Division at Dayton on December 12. Both divisions of the company are turning out war goods at a high capacity—far in excess of their normal volume of peacetime production.

R. V. Mitchell, Chairman of the Board of the company, was master of ceremonies at both presentations. The Army-Navy "E" flag was presented to both divisions by Commander C. O. Triebel, U.S.N. Commander Triebel has spent many years in submarine service.

A. S. Harris, President of the company and son of one of its founders, received the award for the Harris Division. N. O. Scourfield, Manager of the Seybold Division, received the award for the Dayton plant.

Major Harry Stair, U.S.A., Provost Marshal for the 2nd Area, Fifth Service Command, presented the "E" pins at the Harris ceremony to Joseph O. Jones, John Kickel and Edward Waldeck on behalf of the men and women of the plant. Major W. W. Harkinson, U.S.A., Army Air Force, Wright Field, presented the pins at Seybold, which were received by Max Conklin, Walter Eichman and Alois Koehler.

Early in 1940, as a part of the defense program, both the Harris and Seybold plants began to convert their personnel and manufacturing capacities to wartime needs. The normal products of the company have rendered wartime service by helping to print the tons of printed material necessary for the prosecution of the war. At the request of the Army Engineers, among other things, the Harris Division designed and built a special offset-lith press for the reproduction of maps.

The Seybold Division developed a machine that stitches wire through metal. This new machine is used in practically every airplane manufacturing plant in the country and at locations where planes must be repaired.

Wins Fourth Army-Navy Award

Another star has been added to the Army-Navy "E" flag at Linotype headquarters. For the fourth time the Linotype organization has been cited by the War Department for continuing excellence in the production of war equipment.

The letter from Under Secretary of War Robert P. Patterson conferring this latest honor on the men and women of Linotype reads: "I am pleased to inform you that you have won for the fourth time the Army-Navy Production Award for outstanding achievement in producing materials essential to the war effort. By maintaining the distinguished record which previously brought you distinction, you are once again proving your leadership on the production front. "This third White Star added to your Army-Navy Production Award flag carries with it the thanks and congratulations of our armed forces."

A steel ball is not a ball bearing; a ball bearing is made up of four major parts—the ball, the separator, the inner ring and the outer ring.

GOSS AWARDED FIFTH NAVY STAR—Shown here with the Navy Award with five stars at the plant of the Goss Printing Press Co. are five women employees. These women who are crane operators and production workers, were selected at random for this picture from among the 1200 Goss employees. Goss has been engaged in producing gun mounts and hoists. An executive of the company stated: "Goss is proud of its production record but it still remembers that printing presses are its business. When the Navy releases its capacity and the Government releases the materials Goss will again turn out presses."

The five Goss women employees shown in the accompanying illustration are:

(Upper left corner) Edwina Michaluk whose fiance is in the service; she operates a crane.

Next to Edwina Michaluk is Janet Johnson; after her brother became a bombardier, she got into the war effort at Goss.

In upper right corner is Mabelle Hurt who has five children and with her husband working in a war plant, manages at home because the children help each other.

Cy Ford in the lower left corner, operates a giant crane. Her husband is in the service.

At lower right, Angeline Cieslewski is the mother of a 19-year-old son who is in the service and another son, age 14.

Goss Printing Press Co. has been awarded the fifth star to its Navy "E" Burgee. Shown with the Burgee are five women workers.

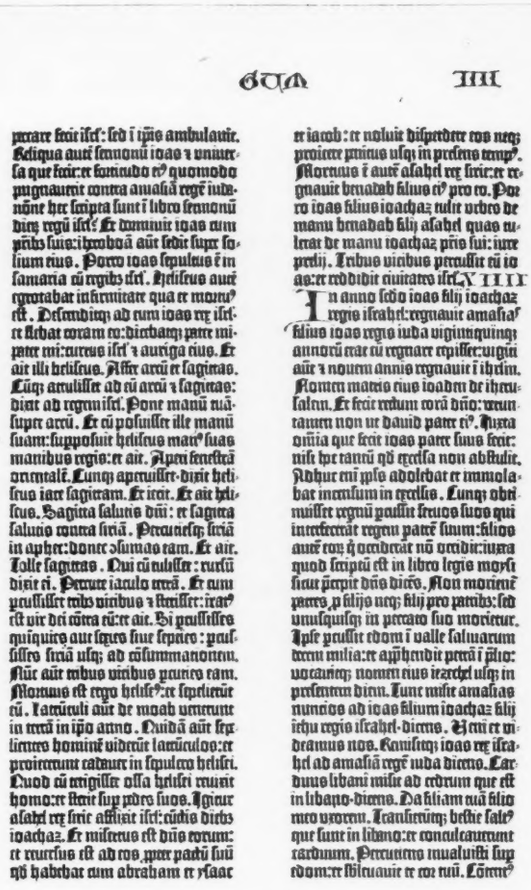
The Gutenberg Bible

THE Gutenberg Bible was the first book printed after the invention of separate moveable printing types. The time of its printing was placed between 1450 and 1455.

In 1847 James Lenox, one of the founding fathers of the New York Free Library brought the first Gutenberg Bible to America. He purchased it in Europe for the then fabulous sum of $2,500 and placed it in the Free Library of New York where it has remained ever since.

The sum of $106,000 was paid for the last Gutenberg Bible sold at public auction. Rare book dealers have estimated that a Gutenberg Bible would bring at public auction today at least $150,000.

There are 36 known copies of the Gutenberg Bible in the world. Ten of these are in the United States and are owned by the following institutions or individuals: General Theological Seminary Library, New York; Henry Huntington Library, San Marino, California; Library of Congress; New York Public Library; Pierpont Morgan Library, New York (2 copies, one being on vellum plus a third copy of the Old Testament only); Yale University Library; Harvard University Library; Carl H. Pforzheimer, New York; John H. Scheide Estate, Titusville, Pa.



Gutenberg Bible Motif Used in Printing Executive's Holiday Greeting

Among the holiday greetings coming to *Printing Equipment Engineer* there is one that seems to call for special comment. This was created by Perry R. Long, Manager of the Hearst Color Press, New York.

For the past three years, Mr. Long has employed a different subject for his greeting cards. Three years ago, he reproduced the first greeting card ever used. It appeared in England in 1842.

In 1943, he reproduced an illustration of the Stephen Daye press together with a brief history of the machine.

For the 1944 holidays, Mr. Long reproduced in one-fourth actual size, a page from the Gutenberg 42-line Bible. On the left hand page above is a brief history of the Bible. The information is imparted that there are 36 known copies of the Gutenberg Bible in the world. Thus scarcity helps make them valuable.

The French fold greeting measures 4⅝ in. by 6¼ in. It is printed letterpress, brown ink on dull buff antique stock.

Reproduced in the accompanying illustration are pages 2 and 3. The page 1 design consists of text type set simply in these words: "In An Old Fashioned Way We Wish You a Very Merry Christmas and a Happy New Year. Mr. and Mrs. Perry R. Long. 1944."

Page 4 consists of a miniature reproduction of a wood cut engraved by J. J. Lankes, representing a winter scene at night.

It seems to *Printing Equipment Engineer* that it is an excellent idea for printing executives who design their own cards to attract attention to the Art of Printing by utilizing some motif related to the industry.

Some Examples of Wartime Greeting Cards for Christmas 1944

Printing Equipment Engineer regrets the impossibility of reproducing many more of the cards sent during this Christmas season. We have selected seven examples to show range of treatment and process by which they were produced.

1—At upper left is 6⅞ in. wide by 4¼ in. high bristol card from Ollie Watson, Manager of Printing, Brigdens, Ltd., Toronto, Ontario, Can. Display in gold thermographic printing, message in black letterpress.

2—Small greeting at upper left is from Henry M. Bettman, well known San Francisco Craftsman now in Uncle Sam's Naval Service. In folded form, the greeting measures 3¼ in. wide by 2⅛ in. high. After four unfoldings, the greeting measures 13 in. wide by 8½ in. high. Printed in red by offset-lith. A message on each fold.

3—Upper center at angle, is the little booklet greeting received from C. Harold and Ida Baskerville Lauck published as a keepsake. Mr. Lauck is head of the Journalism Laboratory Press, Washington and Lee University, Lexington, Va. Printed letterpress on antique ivory stock with light blue french-fold cover. Size of booklet, 2⅛ in. by 4¼ in. Message consists of the One Hundredth Psalm. Hand stitched with dark blue cord. Printed letterpress. Those who have received previous keepsakes from the Laucks will know that the 1944 greeting is as delectably done as the others.

4—At upper right is Christmas greeting sent out by the Minneapolis Groettum family. Clarence Groettum is Production Manager of Jensen Printing Co., that city. This greeting measures 8½ in. by 11 in. Done by offset-lith. Four pages on white wove stock. Cover design in fine screen halftone representing elder son in the U. S. Navy. Inside contains last year's message from the king and queen of England to their people.

5—At lower left is the silk screen produced greeting designed by Peter C. Coughlin, Instructor in Printing, New York State Vocational Institution, and executed by students. Size, 8¼ in. wide by 11 in. high. Done in red, light blue, brown, green, black and white. A rather interesting demonstration of what can be attained by this particular process.

6—Shown in the lower center is the greeting received from Alex J. Alberg, Manager of Printing, Unity School of Christianity, Kansas City, Mo. Size 3⅞ in. wide by 7⅜ in. high. French fold, done

by offset-lith in red, yellow, blue, green and black. Message on two inside and back pages.

7—At lower right is card published by Lieut. Herbert Kaufman, now serving U. S. in the Navy. Mr. Kaufman was associated with General Printing Ink Corp. before entering the service. This white bristol card measures 5¼ in. wide by 8 in. high. Illustrations in black, lettering in bright red ink. Done by letterpress.

Printing for the Beginning Pupil

JAMES W. LOOP, Printing Instructor of Charleston (W. Va.) High School, has published what he is pleased to call a new wartime edition of *Printing for the Beginning Pupil*. The instructional material which has been gotten together in this book is arranged skilfully so that the student can grasp the objective with minimum effort.

The context of the book is presented in dialog form between the instructor, Mr. Johnson, and the pupil, Earl Powell. In this informal spirit, everything is explained to the pupil by the instructor. One of the features of the book consists of nine pages of single-line specimens of type furnished by type founders and composing machine manufacturers. How to go about preparing a form for the platen press, making it ready, and press operation are explained. In addition, there are chapters on stereotyping, mitering, the offset-lith process, what the pupil should know about paper. An interesting chapter is that devoted to newspaper work. Elementary explanations of the operation of the different composing machines are well presented. The book contains 244 pages and carries 163 illustrations.

The book may be obtained in two bindings. The first of these is bound in heavy paper and sells for $1.50. The other binding is green vellum cloth and sells for $2. The book has been sewed to open flat. Size 6¼ in. by 9¼ in. Order direct from James W. Loop, 226 Bradford St., Charleston 1, West Va.

Speakers' Table at New Jersey Mechanical Conference. Left to right: Frank J. Frisch, Mechanical Superintendent, Plainfield *Courier-News*, and vice president of the conference; Fred L. Crane, Publisher of the Elizabeth *Daily Journal;* Paul V. Murphy, Publisher, Perth Amboy *Evening News* and master of ceremonies; Leon A. Link, Production Manager, Cleveland *Plain Dealer*, and Specialist of Printing and Publishing Division, WPB; George W. Holloway, President of the Conference and Mechanical Superintendent of the Elizabeth *Daily Journal;* Harry Loose, American Type Founders; Patrick J. Feeney, Advertising Manager, Newark *Evening News* and president of the New Jersey Press Association.

New Jersey Newspaper Mechanical Conference

By JULIAN POLLAK

THE fifth annual mechanical conference of the Mechanical Division, New Jersey Press Association, held Saturday, December 9, was the best of any held by the division with the largest registration of any of the previous mechanical conferences. It took place in the Elizabeth-Carteret Hotel, Elizabeth, N. J.

George W. Holloway, mechanical superintendent of the Elizabeth (N.J.) *Daily Journal*, was retained president for the third year. Also re-elected were: Thomas Jones, Pressroom Superintendent, Newark (N.J.) *Evening News*, vice president; and Frank J. Frisch, Mechanical Superintendent of the Plainfield (N.J.) *Courier-News*, secretary-treasurer.

Following the registration, luncheon was served with President Holloway presiding during the speaking programs. A talk was given by Patrick M. Feeney, president of the New Jersey Press Association. Departmental clinics followed.

In the evening a dinner was held. Fred L. Crane, publisher of the Elizabeth (N.J.) *Daily Journal*, welcomed the guests. Paul V. Murphy, president of the Perth Amboy (N.J.) *Evening News*, acted as toastmaster. Harry Loose, manager, sales department, American Type Founders, spoke on *Equipment for the Postwar Newspaper* and Leon A. Link, production manager of the Cleveland *Plain Dealer* spoke on *Newspaper Machinery and Supplies*.

Mechanical Excellence Contest

In the contest for mechanical excellence of New Jersey newspapers, ribbons were awarded to the following: Sunday newspapers, general excellence in typography, first, Atlantic City *Press*, no second or third awards. General excellence in printing, first, Atlantic City *Sunday Press*, no second or third awards. Daily newspapers with over 25,000 circulation: excellence in typography, first, Elizabeth *Daily Journal*; second, Jersey *Journal*; third, Passaic *Herald News*; excellence in printing, first, Passaic *Herald News*, second, Newark *Evening News*; third, Jersey *Journal*. Daily newspapers under 25,000 circulation: excellence in typography, first, Plainfield *Courier-News*; second, Perth Amboy *Evening News*; third, Bayonne *Times*; excellence in printing, first, Bayonne *Times*; second, Perth Amboy *Evening News*; third, Bridgeton *Evening News*. Weekly newspapers: excellence in typography, first, Montclair *Times*; second, *Hunterdon County Democrat*; third, Penns Grove *Record*; excellence in printing, first, Madison *Eagle*; second, Montclair *Times*; third, *Delaware Valley News*. J. W. Beck, mechanical superintendent of the Philadelphia (Pa.) *News* distributed the awards.

Judges of the Mechanical Excellence Contest were: Edward O. Davies, Mechanical Superintendent, Harrisburg (Pa.) *Patriot-News*; Gordon F. Elrod, Representative, Duplex Printing Press Co., and J. W. Beck, Mechanical Superintendent, Philadelphia *Daily News*.

Emil Bendow, Linotype Parts Co.; John F. McShane, Newark *Star-Ledger;* John Cartwright, Plainfield *Courier-News;* R. A. Robb and William Cartwright of the Newark *Star-Ledger*.

Composing Room Clinic

FRANK J. FRISCH presided at the Composing Room Clinic. Arthur H. Burns, Mechanical Superintendent of the New York *Herald Tribune* and chairman of the ANPA Mechanical Committee, speaking on *Planning Your New Newspaper Plant*, stressed the fact that the production of a newspaper is a

manufacturing process, but that it is different from other types of manufacturing because "it is always working against the clock." He said that in laying out a composing room, there should be the shortest possible line of travel between machines, copy desk and the various consecutive steps of production. He added that in some areas, such as the makeup department, a wide range of light is advisable, but that each machine operator should be provided with a keyboard light to suit his individual needs.

There was quite a discussion on the question "Does anyone have anything new to offer on the subject of ad deadlines?" Some of the mechanical executives discussed their difficulties and said that since the war the question of taking ad copy had become somewhat elastic. One executive said that no proof is submitted on the day of publication. While some of the executives said their firms keep strictly to deadlines on ads and proofs, others agreed they were unable to carry them out, because they "could not refuse advertising."

Stereotype Clinic

JOHN PENRY, Stereotype Foreman of the Perth Amboy (N.J.) *Evening News*, was chairman of the stereotype clinic. The need of water temperature controls in the water cooling system of plate casting boxes was stressed during the discussion and some of the executives told of a system being used in their plants with good results.[1] The control consisting of a thermostatic mixing valve, a solenoid valve, pump and a thermostat, is effectively working automatically in accordance with the variations of the temperature in the box.

Pressroom Clinic

THOMAS JONES was chairman of the Pressroom Clinic. Oscar C. Roesen, president, Wood Newspaper Machinery Corporation in discussing *The Newspaper Printing Press—Past, Present and Future*, described the progress of the printing press from its inception, pointing to the fact that time has been the governing factor in its development. Speedy communications and transportation have necessitated speedier printing methods, he said, and the fact that photography now produces pictures in full color will bring color into newspapers generally, as soon as wartime restrictions will permit.

Roesen mentioned that all five printing press builders in the United States have received Army and Navy "E" awards, indicating that they have been devoting their efforts to winning the war. Presenting a general picture of the newspaper press of the future, he said that some new presses already are in the blueprint stage, but must await the winning of the war before production on them can start.

"In no era of our history," said Roesen "can we look into the future with such confidence, for surely American industry, which has and is doing the greatest production job of all time, will not go backwards when the war is over and the peace won. The knowledge and experience gained in the design and manufacture of the materials of war will be applied to the design and construction of the machines of peace, machines which will help make this world a better place in which to live, and we in the Graphic Arts can feel justly proud of the part that we will play in the postwar period in the printing and distribution of news of the advancement of the peaceful arts and sciences, and, by the Grace of God, news of the world-wide brotherhood of man."

William T. Diefenbach, in charge of news ink development of the International Printing Ink Company, speaking on *Postwar Newspaper Inks*, declared that pressmen nowadays are color-minded and that the development of colored inks, progressing favorably before the war, will be resumed when the war is over. As an indication of the trend toward color, he stated that in the four years prior to the war, the use of color in newspapers increased forty times. He said that color is more costly to use, but it produces more sales, and although the use of color involves much greater problems than black and white, it has proved itself practicable and further development will see its general use.

Dr. Diefenbach mentioned recent newspaper printing ink developments, particularly with reference to water, coldset and thermoplastic inks. He said experimental work on them largely has been discontinued, if not stopped completely at this time, and the presses in which they have been used have been supplied with oil inks. Because they have not yet been fully developed, there are still troubles with the use of the inks which need to be remedied.

[1](Editor's Note): See November 1944 issue of *Printing Equipment Engineer*, fully illustrated article by the Technical Committee of the Great Lakes Mechanical Conference entitled *Automatically Controlled Water-Cooling System for Stereotype Casting Box.*

William Street, Vice President, United American Metals Corp'n; Rufus R. Ness, Elizabeth *Daily Journal;* Harry B. Adsit, Passaic *Herald-News;* Dr. Frederic E. Merwin, School of Journalism, Rutgers University.

Photo-Engraving Clinic

ELMER PRATT, Mechanical Superintendent of the Camden (N.J.) *Courier Post*, conducted the photo-engraving clinic. Maurice A. Hagan, Superintendent of the Engraving Department of the Philadelphia *Inquirer*, brought up the problem of the smaller newspapers in the color field, and how they will be able to compete with those that have facilities for full color production. The smaller paper executive who does not support an engraving plant can select his copy, make a simple color scheme and send it to an engraver for making separation plates. The small paper executive is color-minded and in this way he can furnish color without the necessity for operating an engraving plant. Mr. Hagan advised simple color technique and cautioned against attempting register in such work. He showed several attractive plates in black and white, with one color, to demonstrate how effectively color can be used in a simple way.

Banquet Speakers

IN an interesting talk, Harry Loose of American Type Founders, said in part: "Do not expect radical developments at least within several years after

(*Continued on Page 26*)

What is Color? *Need for common color language discussed so that physicist, chemist and layman can understand each other in the creation of color printing*

By GEORGE WELP*

**Interchemical Corporation. Abstract of address delivered before Philadelphia Photo-Engravers' Technical Society, November 1944.*

WE might start explaining what color is by asking the question: Is there any color on an uninhabited island? If you asked a physicist that question, he would say "Yes" because he would have in mind the phenomena of light reflected from various surfaces, the refraction of light in the rainbow and from a spray of a waterfall, and he would be right. If we asked the question of a chemist, he would be thinking in terms of materials and pigments, and he would not care whether there was anybody on the island. He would say "Yes" there was color there. But from the standpoint of the average person, who sees color with his eyes, we would say there is no color if there is no one there to see it.

Of course, to do a complete job on color, we have to recognize all three viewpoints, but since I am not a physicist nor a chemist, I can only give you a little of the visual or psychological side.

The first thing we want if we are going to look at color is to have a way of describing it. Of course, we all have some need for describing color, and one of the ways of doing it is to compare it with objects that are familiar to us. We say a lemon, yellow; a sky, blue; a rose, red; and even as I am saying that there are half a dozen visual impressions of what that color means, so it isn't accurate.

EDITOR'S NOTE:

Because printing executives are becoming more and more color conscious with respect to the increased use of color printing in the postwar period, Printing Equipment Engineer *is presenting abstract from an address made recently by Mr. Welp before the Philadelphia Photo-Engravers' Technical Society.*

Despite the fact that Mr. Welp employed visual demonstrations to get across many facts about color, we feel that the abstract as published here will be informative and of considerable value to our readers. That portion of the address which it seemed to us could not be grasped without the visual demonstrations employed by the speaker have been omitted.

Describing Color by Eye

A few years ago the *New Yorker* reprinted from the *London Daily Mail*, with characteristic editorial comment, this item:

"London was wrapped in a strange beauty for ten too-swiftly-passing minutes last evening when the skies were suffused with the soft fires of an almost exotic sunset.

"The western sky suddenly flamed up with a flood of rich color—a wild, unearthly hue of luminous rose—and tens of thousands of strollers gazing at it in enchantment tried in vain to define this elusive glory.

"The wings of a flamingo," said one.

"The heart of an opal," said another.

"The blush of an Irish colleen," said a romantic man.

"Pomegranate," said a fourth.

The editorial comment of the *New Yorker* was: "Nuts," said Daisy.

George Welp

"Merchandising" Colors

We also have the merchandising angle on color names. Obviously, these names have a place, but as a basis for a color language, I submit some names, which my secretary got from a millinery house. I hope the first one is no reflection on the Navy—it is called "Affinity Navy". This illustration is "White Wine". This one is "Seacap Green". This is "Persian Palmyra", and this is "Neon Pink".

The merchandising of color nomenclature has been going on for quite a number of years. In a fashion record published about ten years ago, certain colors were called "Yellow Daisy", "Meadow Lark", "Lavender or Heliotrope", "Polar Bear or Mummy", "Spice", "Burnt Orange", "Seaside", "Tea Time", "Gray Dawn", and "London Smoke".

From a merchandising standpoint they have considerable value but not as a common language of color upon which everybody who has to do with the production of a job can agree.

Our first need is a common color language. Let us see if we can't approach it by some experimental method. We will assume that during one of those Pacific campaigns a fairly intelligent G.I. Joe gets stranded on a desert island. He isn't a scientist, he has no knowledge of physics, and he uncovers a little chest full of every conceivable color.

Having nothing else to do, he dumps them out on the sand and begins to speculate about them. He wonders whether there is any relationship between them, and the first thing he notices is that there are a great many that are all in the same sort of color. There are a great many reds; there are a great many yellows; there are a great many blues. So he begins to pick them up in piles of the same general color, and he thereby discovers the first characteristic of a color, which is hue. He puts them all in piles, each in its own hue, and he begins to look at them from another standpoint.

Hue Sequence

He notices that there are some greens which seem to have both yellow and blue. There are oranges which have both yellow and red. So by several experimental steps, he finally has them arranged so that each color seems to go naturally next to the other—the red, the orange, the yellow, the yellow greens—and he discovers that he has a hue sequence.

Hue Circuit

For a minute the red and the red purple bother him a little bit, and then he gets the idea of putting them in a circle because they seem to have something in common, and he has a hue circuit. He does not know that a lot of other people have done this before. By purely experimental methods he has arrived at hue and he has made a hue circuit.

Value

The next thing he begins to wonder about is what he would do with the colors that didn't seem to have any particular hue. They were the achromatic colors, the grays, as differentiated from the chromatic colors. He discovered that some were lighter and some were darker; so he began to push those around until he arranged them in a series from dark to

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Typical of Cottrell's engineering skill is this five color sheet-fed rotary press. It prints up to 5500 sheets an hour in five colors or less. Simple in design and easy to operate, this press has shown exceptional ink economy; up to 20% savings over flat-bed presses have been reported by users. Investigate Cottrell advantages now!

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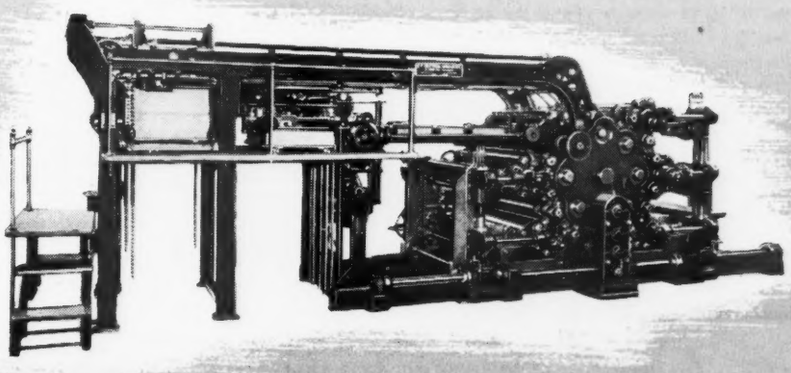


17.

LEMOYNE

light, and he discovered the second attribute of color, which is value, the difference in lightness and darkness. Hue distinguishes a color, such as green from red or red from yellow. Value describes it in terms of light or dark, from black or white or gray.

Having done that with the grays, he picked up his pile of reds and spread them out to see whether he could arrange them in the same way that he had arranged the grays and he found that he could.

He put all the light ones at the top, all the dark ones at the bottom; so he had arranged one pile of one hue, red, in accordance with their value, the light ones down to the dark ones. But then he discovered something else about these. In each line that was the same value, that is, the same lightness or darkness, each chip was different from the other in another way. Some were very bright and some were very gray. So he said they ought to have some kind of order.

Chroma

By picking them up and laying them down again he arranged his pile of reds, which were already arranged in value, according to the brightness or grayness and discovered the third characteristic or attribute of color, chroma. Chroma distinguishes the distance from a natural gray. We say that the color at the extreme end is strong in chroma because it has little gray in it. Where it is close to the neutral, we say it is weak in chroma because it has a great deal of gray in it.

He didn't know that that system was the system by which a man named Munsell had arranged a long series of colors according to three dimensions. Munsell gave them numbers and letters, a letter for the hue, a number for the value, a number for the chroma; so he would describe bright red of extreme chroma as R 4/14—R for red, 4 for the value, and 14 for its chroma. And he did that for 360 colors.

Recording Spectrophotometer

This demonstrates that no matter from which angle you approach color, you arrive at a three-attribute or three-dimensional description. Our experimenter didn't know that there was a machine which would record color according to parallel notations of dominant wave lengths, brightness, and purity by analyzing the color according to the kind of light it reflected.

This is done by taking a narrow slit of each color after the color has been refracted into its components through a prism, making a point at the amount of reflectance and drawing a curve, which completely identifies that color.

Let us try it with yellow. I would like to mention, because it has a bearing on our business and yours, that yellow is a rather surprising color to a great many people when they see its reflectance curve, because to them it is yellow and it ought to reflect only that part of the spectrum; yet you notice that it reflects all the way over through the green; so the visual appearance of a color does not always show what its mixture characteristics are.

For example, it is possible for a trained physicist, having the curve of a blue and the curve of a yellow, to draw the curve of the green which will be produced by mixing those two colors, because he can tell by the reflectance characteristics what the resultant color will be like.

This is particularly important in the analysis of process colors, because at least we can know what to shoot for. The curve of three ideal subtractive primaries would be represented by these three curves for the magenta (or the minus green) for the yellow (or minus blue) and for the blue green (or minus red).

Your business and the ink business must be a marriage based on what each business can contribute. Plates must be made up to compensate for the limitations of the inks, because the best available pigments now will not give us ideal mixture characteristics as yet. But now we have a way of measuring so that we know when we have extended our gamut a few points.

Then we have the chemist's viewpoint, and whether or not we want to examine the raw materials, we must recognize their limitations and by recognizing them save ourselves a great many headaches. If we are designing a package or printing a package that must resist alcohol, we must take it for granted that our gamut of colors is limited because it must resist that deterioration.

We have to recognize mechanical limitations and raw material limitations. We have to recognize the need for an accurate color language so that we understand each other. If you want to go completely accurate and scientific, you can use the physicist's language of wave length, brightness and purity. If you want to use just the popular language of hue, value, and chroma, you have that language.

That sounds as if it would solve all of our difficulties. However, when Munsell made his notations, they were all against a single background, and the minute you change the background of a color, it may change its characteristics, so that you have to change your description.

For instance, if we take two semicircles of a natural gray, exactly the same value and natural in hue and put one against a yellow background and the other against a blue background, we find that they are totally different. The reason is a retinal phenomenon.

Let us try the same gray half circles against two different backgrounds. Against the red one gray half circle takes on a greenish hue, and against the green the similar gray half circle takes on a reddish hue. Your retinal mechanism is trying to keep your eye in balance, and it is adding the complementary of the red to the gray.

Taking the same two gray half circles, if one is put against a dark bluish red and the other gray half circle against an orange, one becomes yellowish and one becomes bluish.

If you have a jet black Scotch terrier of which you are very proud and like to show off his coat, don't put him against a blue background, because against a blue background he begins to get rusty looking.

EDITOR'S NOTE—*By means of other graphic illustrations, Mr. Welp demonstrated the effect of color change upon the eye when certain colors are superimposed upon different backgrounds. He also discussed another series of general principles of hue relationships which are useful in designing color materials. This discussion is not being printed here because, without the actual color demonstrations, the principles would be confusing and valueless to the reader.*

Caption Slugs for Marking Cuts — Fuses and Light Bulbs in Metal

IT seems that Ed Stuart of Edwin H. Stuart, Inc., made an address some time ago before the Pittsburgh Craftsmen's Club. Kenneth W. Chapin of the Monthly Record Pub. Co. (same city) was impressed to the extent of making some comment about Stuart's speech. We reproduce two of the paragraph's below:

"The use of steel stamps to put file drawer numbers on cut bases is just another case of taking time to save time. A set of steel stamps certainly doesn't cost much, but a lot of us don't bother. A stunt I often use, where the cut line is a lino slug, is to take the cut, when the form is killed, to the proof press, stand it on edge, ink the slug with a brayer, hold it face down on the end grain of the base and hit it with a hammer. It takes a saw to erase that identification.

"Glad to hear you reiterate the admonition to keep type metal clean. I happen to be a crank about that myself. It's beyond my understanding how anybody in a printing shop can expect a machine operator to get good type out of such things as blown fuses and poofed light bulbs thrown into the dead metal box."

Absolute cleanliness is a prerequisite for the successful functioning of any antifriction bearing because of the fine precision of the surfaces.

haste: *precipitate action*

hurry: *connotes confusion*

speed: *swiftness*

dispatch: *promptness*

Out of the pages of an old classroom notebook into this paragraph "explaining" the Linotype

HOW MUCH FASTER do your new Linotypes run? we are asked. . . . Not any, we reply. . . . Then, why do you claim them to be capable of greater production? is the query. . . . Because through improved engineering the end results exceed (as well as excel) earlier models—easier operation, greater automatic control, more preventives (safeties), enlarged capacities, added flexibility, increased versatility—all combine to assure a product never before equalled . . . the best product, the most, with dispatch . . . such is today's Blue Streak Linotype.

★ *Speed the Day of Victory—Buy More Bonds!* ★

Linotype Caslon Old Face

ELECTRONIC REWINDER DRIVE AND ELECTRONIC CUT-OFF REGISTER CONTROL

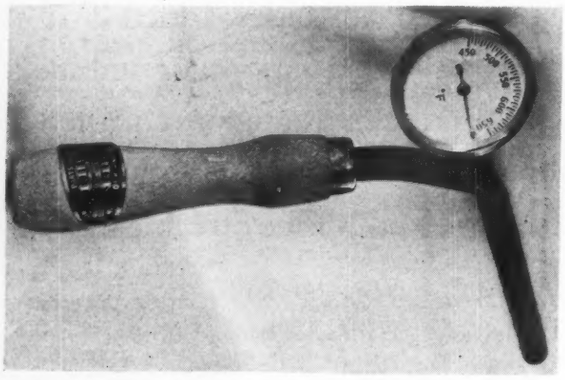
IN his annual *Electrical Developments of 1944 Review*, Guy Bartlett of General Electric Company has this to say about two developments related to the Graphic Arts industries. These are of interest to the paper, printing and textile industries. The developments consist of an electronic rewinder drive and a new type of electronic cut-off register control. Various industrial processes involve a rewinding operation in which a material such as paper, textiles, or film is unwound from one reel and, immediately following certain operations such as slitting and inspection, is rewound on another reel. The drive generally incorporates such features as wide operating speed range, wide adjustment of tension, and reversing. An electronic control was developed to control the motors of such a drive in response to speed and tension signals, thereby maintaining speed and tension corresponding to the settings of the controls.

A new type of cut-off register control was made, employing long life, high-vacuum tubes throughout, eliminating the slower magnetic contactors used in some previous types. The system provides the means to apply corrections in proportion to the amount of misregister, and also in proportion to web speed, thus providing a control which operates at maximum efficiency under all operating conditions.

Thermometer and Linotype Second Elevator Spring

THE Linotype Parts Company has announced two new items for use in connection with line-composing machines. The first of these is a dial-type direct reading thermometer, the stem of which is inserted directly into the molten metal in the pot on the line-composing machine. The heat-sensitive element in the metal encased stem is a metal coil. This coil actuates the indicator on the dial. A wooden handle permits handling the instrument with comfort. When the thermometer stem is immersed in the pot for taking a temperature reading, the dial is in a flat position to facilitate easy reading. The calibrations on the dial range from 450 deg. F. to 600 deg. F. with a 100 deg. safety margin for excess heat. Sponsor states the thermometer is accurate to within ½ of 1% over its entire indicating range.

Another item announced by The Linotype Parts Co. is a second elevator starting spring for Linotypes. The spring is made from square cornered steel instead of round stock. Sponsor states that since it is made from a tough alloy, the life of the spring will be extended considerably.



View of Linotype Parts's line-composing machine direct reading dial thermometer. Sensitive element consists of a metal coil. Wooden handle facilitates handling.

Interchangeable Swivel Forks For Power Trucks

GREATER flexibility in operation of power industrial trucks equipped with interchangeable swivel forks, is announced by the Elwell-Parker Electric Company. In the accompanying illustration is shown a truck built for paper mill or printing plant use. Equipped with a roll handling scoop this truck can pick up, carry, store, or stack the heaviest newsprint rolls, and load or unload them in railroad cars. The rolls can be carried or stacked in either vertical or horizontal positions with no damage to the paper. A few minutes are required to remove the roll handler and attach the fork; then the truck can be used for handling and hauling flat stock on skids or pallets. The long sharp forks can also be used for handling rolls if desired, although the scoop attachment is generally preferable. A specific advantage is that the scoop can be swiveled almost instantly from horizontal to vertical position for easy passage through doors or narrow aisles, and just as quickly returned to horizontal position at destination if it is desired to deliver or stack the roll horizontally. Equally important is the complete protection of the paper in handling and in transit. Appliances are available to get a wide range of service from a single truck.

Elwell-Parker truck removing rolls from freight car.

Adds New Member

The Rochester Electrotype and Engraving Company, Inc., Rochester, N. Y., has become a member of Printing Plates Research, Inc., J. Homer Winkler, secretary-treasurer of the research organization, has announced.

The affiliation of the Rochester firm boosts the industrial membership of Printing Plates Research to eighteen electrotype manufacturing companies. The group has as its objective the improvement of printing plates through the application of scientific research to printing plate materials and processes.

As a member of Printing Plates Research, the Rochester Electrotype and Engraving Company will share in the past and future developments and patents resulting from the organization's research activities at Battelle Institute, Columbus, O.

Ideal Compliments 20-Year Employees

The Ideal Roller & Manufacturing Company gave its annual employees' Christmas party on December 22. Parties were held at both the Long Island City, N. Y., and the Chicago plants.

The Chicago party was held at the Graemere Hotel Ballroom where a dinner was served at 1:30 p.m. Presentation of watches was made to three men who have been with the company for 20 years. Vice President E. Byron Davis presented the watches to three employees of the Chicago plant.

At the Long Island City plant, N. L. Rowe presented watches to two employees at a similar employees party.

Including the five employees who received the five watches this year, a total of 25 watches have been presented to Ideal employees for 20 year service. Remarked Mr. Davis: "We believe this to be quite a record in long employment by a company of our size."

HOE'S

1944

FROM HOE'S 1944 CATALOG

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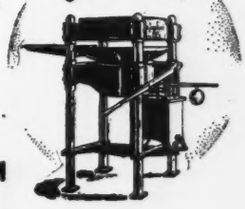

FROM HOE'S 1866 CATALOG

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A SUCCESSION of catalogs shows how, for nearly a century Hoe has given to the Graphic Arts the benefits of continuous improvement in hydraulic moulding equipment.

The latest Hoe Direct Pressure Hydraulic Matrix Moulding Press – the culmination of Hoe's 80 years of advancement in the design and manufacture of Hydraulic Presses of every description – produces deeper, sharper, more uniform impressions; provides greater accuracy for color work; holds mat stretch and buckling to a minimum; gives faster, simpler operation.

Not only is it the speediest machine on the market, but its capacity can be doubled at any time by the addition of an extra sliding form plate.

Its one-piece frame of alloy steel provides utmost rigidity with economy of space. Ease and safety of operation result from full automatic control with conveniently located push buttons. It can be supplied for cold mat moulding, or for moulding under heat.

Scientifically designed and precision-engineered, 80 years of know-how are responsible for the highly satisfactory performance of this Hoe machine.

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EXECUTIVE ¶s

Arthur Dressel, Vice President and General Sales Manager of R. Hoe & Co., Inc., announced that effective January 1, 1945 Mr. Walter C. Cooper became manager of the Middle Western States territory with offices in the Chicago Daily News Building at 1 North Canal Street, Chicago. Mr. Cooper succeeds C. W. Ginsberg who has resigned to accept an executive engineering position with Triangle Publications of Philadelphia, Pa. Mr. Cooper joined the Hoe Organization in 1918 serving in various capacities in the manufacturing, press erecting and service divisions. He completed his engineering training at Pratt Institute and Brooklyn Polytech. In 1932 he was appointed Manager of Hoe's Southern territory. He is well known in the printing trades. Mr. Dressel stated that the Middle Western territory will be expanded to include a greater area consisting of 18 states and extending from North Dakota, Minnesota, Wisconsin and Michigan as far south as Texas, Louisiana and Mississippi. The increased territory will also include the Canadian provinces of Manitoba and Ontario.

Clarence J. Walkoe has become a representative for Imperial Type Metal Co. He will represent the company in Wisconsin, Minnesota and the Dakotas. Formerly, Mr. Walkoe was associated in the printing trade at Central Typesetting Co. Cuneo (Chicago). Since 1932 he has been a sales representative for Mergenthaler Linotype Co. in both Minnesota and Wisconsin. He took up his new duties with Imperial during the first part of January.

Clarence J. Walkoe, Imperial's representative in northwest.

Emil J. O'Hara, sales and service engineer for J. M. Huber, Inc., passed away early in December at Jamaica Hospital, N. Y., after a surgical operation. He was born in Woodhaven, Queens, August 15, 1897. He had been a member of the Printing Pressmen's Union for 27 years. One son and two sisters survive.

Newark Craftsmen's Club holds book auction Feb. 8. Shown here are club officers (left to right) Harold Dombrowsky, Jos. J. Hammer and President John A. Waryn. This book auction could serve very well as model for other Craftsmen's clubs.

The Fred'k H. Levey Co., Inc. (Division of the Columbian Carbon Co.) has recently made several additions to its organization as follows: Alfred Strohm, was formerly in the printing and paper business in Milwaukee, and more recently a member of the United States Naval Reserve, he is now representing the Levey Company in Milwaukee, where a new office has been opened. Walter Parisette, who recently joined the organization, has had eighteen years of printing ink manufacturing and sales service experience; he will serve the company as Sales Service Engineer. Adam Dembicki was formerly head of the ink department in one of the leading carton houses and has been placed in the laboratory to supervise the Carton Ink Department. John Slager, with eleven years of experience in the manufacturing of dry colors and flushing operations, is now working in the Technical Control Laboratory.

Walter H. Annenberg, President of Triangle Publications, Inc., and publisher of the Philadelphia *Inquirer*, announces the appointment of Charles W. Ginsberg as chief production engineer of Triangle Publications, Inc. effective January 1, 1945. Mr. Ginsberg, who is a graduate mechanical engineer, will be in charge of the contemplated expansion of the Philadelphia *Inquirer* and other Triangle properties. Mr. Ginsberg was manager of sales in the Middle Western territory for R. Hoe & Co., printing press manufacturers, having joined the engineering staff of Hoe in 1922. After eleven years in the engineering department, where he was a press design engineer, he joined the sales department as sales engineer and printing consultant, and in 1936 was promoted to the position of manager of the Middle Western territory. He has a number of printing press patents in his name, and during his travels has been a plant layout and production consultant to a number of publishers and printers in the Middle West. Mr. Ginsberg, who is 45 and married, has two children, a son 20 and a daughter 10. His son is now in the European Zone, flying in a B-24 as a member of the Eighth Air Force, and has received the Distinguished Flying Cross, the Air Medal and the Oak Leaf Clusters.

Chas. W. Ginsberg, Chief Production Engineer, Triangle Publications, Inc.

EMPLOYMENT
AND SERVICE

Employers, production and mechanical executives may insert notices in this department. Items may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions. Any reasonable request by an executive on a subject other than those listed will be granted cheerfully.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

WANTED—A chemist, physicist or engineer who is interested in the varied technical problems of the printing industry. Location: Mid-west research institute. Salary: Open. Reply Box 220.

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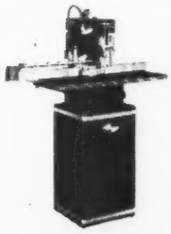
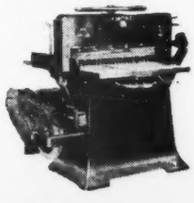
Our customers of the past fifty-one years have chosen Challenge equipment with confidence ... and we shall see to it that this confidence is never violated. Only tested products will be presented to the trade.





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Linotype Machinists,

who have less help than ever, will appreciate these two *New Time Saving* improvements:

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(Part No. Z-19 — $12.00)

Face-up Indicator Dial means no more squinting or contortions necessary to read temperature .... Needle comes to point quickly .... All metal — No mercury — No glass stem to break.

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This Flat Coil Spring, of entirely different steel, has none of the brittleness of the present type. It will outlast many of them, and save many a Distributor Box Bar from broken ends ... Replace all the broken Second Elevator Starting Springs now on your machines and you will have one less detail to worry about for many years.

ACE BELTS are made under special processing patents. Others can only be imitations.

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CHICAGO • MINNEAPOLIS • DENVER

New Jersey Newspaper Mechanical Conference

(Continued from Page 17)

the war. Second, keep an eye on gravure. Third, keep both eyes on offset. Fourth, you may do this by attending trade association meets, making use of your trade association services, reading your trade papers, and by conversation with fellow members of your business. Fifth, make sure you are taking every opportunity to make currently available equipment more efficient.

Loose gave considerable attention in his talk to offset printing, but also advised the production men to consider well equipment standing idle and little used in their plants. As for the general outlook in the mechanical departments, he said:

"For instance, electrostatic printing has been developed. Did you ever run a comb through your hair and then pick up a piece of paper with it? Well, this press works along the same principle. The plate barely touches the paper, or it just comes within 0.001 in. of the paper and the ink is transferred from plate to paper electrostatically. The process is still in the development stage.

"Gravure, on the other hand, has reached a stage where it is worth watching. With all of its advantages of speed in running, gravure plate making is still a problem of skill and time. Until further developments are made, it is not yet suited for dailies."

Loose said that nothing in the way of new machinery is going to spring suddenly and added: "Most important to you are the developments in the offset process, which is here, and in the letter press field, which will be with us for some long time to come."

Talk by Link

LEON A. LINK, who is mechanical consultant to the newspaper section of the War Production Board, called paper "industry's greatest supply problem at the present time." He said: "Regardless of what you have been told or may have read, there is no indication that the supply of newsprint, for the use of newspapers, can be increased in the near future. If the war in Europe should end tonight, it would be more than six months before a trickle of increased newspring would be available. That is the most optimistic situation we can imagine." He further declared that "newsprint inventories now are higher than they were at the end of 1943, but pulpwood inventories are low in some areas, although we are collecting 620,000 T. of scrap paper every month.

In regard to machinery, Link said: "Because W.P.B. recognizes that your machinery is getting older and in order to facilitate manufacture of parts, a revised order now permits manufacturers to make 150% of the parts that were sold during 1941. We know older machines require more repair parts. We have the assurance of the different manufacturers that they will not sell excessive parts to a customer and we feel sure the newspapers and other printing concerns are going to cooperate by not trying to order more than is needed."

The speaker discussed the necessity for better printed newspapers commencing in the postwar period. He said: "I am not suggesting that the daily newspaper should expect to print a product that compares favorably with the better printed magazines. We cannot do that and remain a daily newspaper. . . . Practically all of the research we have benefitted from, has been done by our suppliers. When quality has clashed with price, we in the newspapers have shown more interest in price. I believe the day is fast approaching when we will, of necessity, turn our ear a little more to the man who is talking about quality and give just a little less attention to the fellow who may quote the best price. In most instances, we get about what we pay for, so if there is something better to be had and we want it, we will pay more for it.

"I have said before and I still believe, that the most important step we can take, the first thing we must do to bring about improvement, is to decide that we must use a better quality paper and better ink. It is by common consent that we must agree on both, because one is dependent upon the other if we expect to get full advantage from both.

Most Important

OF ALL

The small tools which are necesary for the production of good printing often more directly affect the finished product than some of the most expensive equipment in your plant.

Rouse Hand Mitering Machines, Lead and Rule Cutters, and Composing Sticks vitally contribute to the profitableness and the efficiency of composing room production.

Frequent check of your small tools and replacement when necessary will repay you many times. Though not always immediately, Rouse dealers will be able to supply you.

H. B. ROUSE & COMPANY

2214 NORTH WAYNE AVENUE, CHICAGO 14, ILLINOIS

NEW
Superintendents

Like Imperialized Plus Plan Shops

New superintendents—whether up from the ranks or brought in from another plant—like to find the dependable PLUS PLAN already in operation. They know there will be no metal trouble, no changes necessary insofar as the metal supply is concerned, for the PLUS PLAN, systematically carried out, is the most dependable production-loss proof system known for the care of type metal. Incidentally, now—at the beginning of the New Year—is a good time to Imperialize your plant. May we hear from you if you are interested?

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

PHILADELPHIA NEW YORK CHICAGO

Imperial

ZINK CUT CEMENT PRICES in the United States: 75c per large tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots.

A SIMPLE REMEDY for a TROUBLESOME PROBLEM

Many composing room superintendents and stereotype department executives have been on the receiving end of critical comments from the business office and the advertiser because of missing or out-of-position cuts, all for the want of a simple cement which can be used to fasten cuts to bases just as indicated in the advertiser's layout, or wanting a lay-out, where good judgment dictates just how they should be positioned on the base. **Booth's Zink Cut Cement** fastens all kinds of cuts to any kind of base. No waste—no muss.

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BOOTH'S BLACK RUBBER ROLLS

for line-composing machine keyboards are carefully and exactly made so they will be of the same diameter throughout their length when properly applied to the shaft. Prices: $1.45 per pair; $7.75 per dozen.

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RUBBER COMPANY
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• You really sit up and take notice of the clean cut reproductions from Burgess Supreme Tone-Tex Mats.

Reproductions of absolute fidelity from 133 line screens as well as stereo color process work.

Burgess Mats are laboratory tested . . . to insure uniform, eye appealing reproductions.

Your customers will appreciate the difference of this superior quality mat. Switch today for better work tomorrow.

This advertisement printed from plate made from a Burgess Supreme Tone-Tex Mat.

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FREEPORT • ILLINOIS
Pacific Coast Representative
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"My good friend, Les Griner, Mechanical Superintendent of the Chicago *Sun*, spoke before the Inland Daily Press Association at Chicago in October. He said that improvements in machinery were not necessary in order to improve the quality of printing, that our present equipment is capable of producing much better work, if the paper and ink were better. I agree with Mr. Griner's statement. However, we understand that much is in the process of development, to improve newspaper printing. If we do not step up the quality of paper and ink, we will never get, from the improved equipment, the quality of work it is capable of producing.

"When we think of better newspaper printing, one of the problems that always comes to the forefront is the desire to improve the quality of halftone illustrations. So many times a halftone cut as printed in the newspaper is disappointing, when compared to the proof of the original cut. Better paper is often used to take that proof and in most all instances, better ink is used and when we take the proof, we suffer no losses as a result of the stereotyping process. The best halftone printing is done from fine screen cuts on good paper with good ink. I am one who believes that better paper and better ink would make it possible for us to use a finer screen halftone for newspaper printing, even though we will continue to have some loss of depth as a result of stereotyping. There is much thought being devoted to the improvement of materials and processes involved in stereotyping. We must all agree that much detail is lost in coarse screen cuts. The best evidence of that is to compare some of the news cuts printed in magazines with the same illustrations printed in newspapers. If better paper and better ink, along with whatever improvements can be made in the other processes involved, will permit using finer screen halftones, then we will have made a definite contribution to the improved appearance of our product.

"I don't want to leave the impression that it is my belief that better paper and better ink will solve all the problems. I believe that we all have a full appreciation that many other things are involved. but I am of the opinion most of us are convinced that the greatest improvement will come from improved paper and ink. The present quality of those two materials have many of the other contributions to improvement stymied."

Pump Catalog

Bump Pump Co., La Crosse, Wis., has issued 104 page catalog describing the Bump Pump principle of operation, range of sizes in both industrial and sanitary pumps. Contains cutaway views, dimension and installation diagrams, h.p. charts, equivalent, and friction loss tables. Materials recommended for pumping various liquids, together with typical installations, and plant views. Extensively illustrated with halftone reproductions of the pumps. Typical products and recommended pump for these products listed.

Say Printers and Publishers

In this statement—backed by the 20 year history of the Monomelt System—you have a fundamental objective of the printing and publishing industry.

You *must* produce clean, crisp uniform printing that attracts the reader. You *must* bring advertising copy out in sharp, distinctive type to please the advertiser. You *must* race against the clock all the time.

The Monomelt System smooths and speeds the work of the composing room. It helps prevent bedlam at press time by preventing corrections needed for broken slugs, illegible type and spoiled mats. And Monomelt sharply reduces "down time" of casting machines.

Savings average ½ hour per day per casting machine from this item alone.

Monomelt makes sure that type is cast exactly as it was *designed*. It keeps type metal, and typography at their best—and adds to your composing room's efficiency.

WRITE TODAY FOR DETAILS

MONOMELT COMPANY 1611 POLK STREET N. E. MINNEAPOLIS

NOW YOU CAN GET TRU-MOLDS

As long as the supply lasts you can get the NEW Eastern TRU-MOLD Cork Molding Blanket. This TRU-MOLD Cork Molding Blanket differs from any other blankets now on the market.

Greater shrinkage has increased the need for sharper impressions—so the correct percentage of Bakelite has been incorporated in the cork composition binder to insure perfect density. The blanket has flexibility to reduce cracking on the edges to a minimum. We believe this new molding blanket to be an advanced step towards improved printing.

These blankets may be ordered in "Medium," "Medium-Hard" and "Hard" density.

Sizes	1/4" Each	5/16" Each	3/8" Each	3/16" Each
20" x 24"	$2.50	$3.75	$4.50	.....
21" x 25"	2.75	4.00	4.75	$2.50
22" x 26"	3.00	4.25	5.00	.....

(One size only on 3/16"—21" x 25")

"FLECTO" GUMMED BACKING FELT is a product of modern chemical research. It is of finest quality, both in the felt and adhesive, and is sold on a money-back guarantee.

HERE ARE "FLECTO" FACTS!

It will stick fast, on any mat, regardless of heat used in scorching. Its adhesive will not crack, peel, slip or crystallize.

It tears easily and cleanly, without ragged ends.

Its gauge is uniform throughout and all "FLECTO" is gauged accurately.

"FLECTO" felt is well bonded throughout and will not peel or separate in layers.

It is soft and pliable, assuring conformity to the mat and easy shrinking with the mat. Hundreds of users say "THERE IS NO BETTER BACKING FELT MADE."

GAUGES AND SIZES

Gauges .021, .025, .030 (Green) sheeted 18" x 24".

Gauge .035 (Red) sheeted 18" x 24".

Gauges .040, .045 (Green) sheeted 18" x 22".

Gauges .050, .060 (Gray) sheeted 18" x 22".

Cut into strips 9" or 18" long and 1/8" to 1" wide at no extra charge.

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9603 NORTHERN BOULEVARD **CORONA, L. I., NEW YORK**

Acclaimed by All!

- **Zephyr Halftone Black**
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Sets with lightning rapidity . . .
Backs up clean in 30 minutes . . .
Dry as a bone in one hour . . .

Try them and you'll buy them.

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FROM COAST TO COAST

Beneath this stack, experience, research and service are at your command.

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WPB News

No Additional Paper Curtailments

ALTHOUGH the shortage of print paper is expected to continue in the first quarter of 1945, quotas of printers and publishers will not be curtailed further provided no unforeseen demands arise, members of the Magazine and Periodical Industry Advisory Committee were told by War Production Board Forest Products Bureau officials at a meeting last week, WPB reported on December 19.

If the present demands of all claimant agencies for printing paper were filled in full, there would be a deficit of more than 40,000 T., but, in view of the careful screening that has eliminated all but essential requirements, it is believed supplies can be stretched to meet necessary demands without dipping further into decreasing inventories of pulp and paper, the officials said.

WPB is doing its utmost to increase production of wood, pulp and paper, and hopes that the pulp and paper industry may be reinstated on the production urgency list, the officials said. If production can be increased and demands reduced, a cut in paper usage in the second quarter of 1945 may be avoided, but the second quarter outlook is less bright than that of the first, they added.

It is hoped that by July of next year Canada's wood and pulp production may be increased; less Army nitration pulp may be required; domestic production of pulpwood may be stepped up; and waste paper collections will increase, WPB said. One optimistic note was struck when it was reported that during the last quarter there had been few complaints of non-delivery of paper to printers and magazines, indicating that paper mills are doing their utmost to maintain delivery schedules, WPB added.

Paper Distributor Order To Cut Quota

S. Safier, Inc., Jersey City, N. J., paper supplies distributor and paper plate manufacturer, has been charged with violation of WPB Order M-241-a and directed to cut 199 T. of pulp, paper and paperboard from its usual consumption quotas before December 30, 1945, the Compliance Division of the War Production Board reported on December 20.

WPB Suspension Order S-624, effective December 30, 1944, extends for one year unless the firm subtracts 199 T. from its permitted paper consumption prior to the end of 1945. The Safier firm distributes wrapping paper, paper bags and other products, besides manufacturing paper plates. This manufacture represents less than 2% of its business, WPB said.

During 1943, the firm consumed 124 T. of paperboard in excess of its quota, as established by WPB Order M-241-a, which restricts manufacture of specified paper-converted products, according to WPB. In the first quarter of 1944, the paper supply company again exceeded its consumption quota, by 75 T. of paper, WPB charged. Responsible agents of the corporation are also charged with failure to maintain accurate and complete records of inventories and production, as required by Order M-241-a and Priorities Regulation No. 1, Compliance Division officials said.

Uniform Cut Will Be Applied If Further Paper Cut is Necessary

ANTICIPATING a shortage of print paper in the first quarter of 1945, members of the Commercial Printing Industry Advisory Committee recommended that, if further curtailment is found necessary, the Government Presiding Officer appoint a task group to confer with the War Production Board before the order is amended, WPB said early in December. The committee pointed out that it believed any further reduction in the uses of print paper should affect all WPB printing and publishing orders uniformly—those governing books, magazine and newspaper publishers as well as commercial printers.

Robert D. Ross, Chief of the WPB Commercial Printing Section, and Government Presiding Officer, assured the committee that it was the policy of

(*Continued on Page 35*)

Printing Patents Report . . .

Covering patents issued November 28, December 5, December 12, December 19

This data is compiled exclusively for Printing Equipment Engineer by Invention, Inc., is verified in the United States Patent Office, and is comprehensive of all patents in the field of each heading for the dates specified.

For copies of patents listed here, specify the patent numbers and send 10c for each separate patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating:

2,364,142. HIGH SPEED BOOK-COVER BENDING MACHINE to which open book covers may be fed, one at a time, into and through a number of sets of warping rolls. The rollers are arranged with their rotational axes offset. The several operations follow each other in rapid succession so that there is not time between bends to permit covers to partially return to original form and the direction of travel of the covers with respect to the rollers may be changed so that by the time they issue from the machine, the desired curvature has been obtained. Invented by William B. Hildmann, Chicago, Ill. Assigned to Brock & Rankin, Chicago, Ill. Application August 14, 1943. 15 claims.

2,364,674. METALLIC LEAF useful in roll form for stamping, embossing and ornamenting compressible surfaces such as leather and cloth. In the manufacture of the leaf, a strip of silver is welded or plated to a strip of dark gold which may be about 23 carat. A strip of light gold, about 16 carat, is welded or electroplated to the dark gold. The preferred proportion of the various metals by thickness are silver 70%, dark gold 5%, and light gold 25%. The composite strip is then beaten in conventional manner until final product reaches desired thinness. Invented by Donald D. Swift, Hartford, Conn. Assigned to M. Swift & Sons, Inc., Hartford, Conn. Application November 27, 1939. 6 claims.

2,365,429. STAPLING MACHINE. of floor model type, which feeds itself a continuous length of wire and bends and cuts the wire to form individual staples, which it then inserts into a workpiece. The size of staples and angular orientation at which they are inserted can be varied by a quick and simple adjustment. The stapling head permits rotation of the staple after it is formed and before it is inserted, so that it can be formed in one place and inserted in another. In this way it is possible to employ stapling heads placed more closely together than was previously possible when stapling longitudinally. Invented by Franz Muske, Bremen-Sebaldsbruck, Germany. Vested in the Alien Property Custodian. Application May 31, 1939. 5 claims.

Composing Room Equipment:

During the past four weeks covered, no patents issued for this heading.

Feeding, Folding and Delivery:

2,363,556. SHEET HANDLING APPARATUS for printing presses in which power is transmitted between cylinder and delivery conveyor, enabling driving of the conveyor direct from the cylinder when press and delivery are assembled, yet which allows for raising and lowering of the cylinder during operation of the press. Resilient and geared driving connection between cylinder and delivery conveyor is provided. Upon movement of delivery toward cylinder, the driving connection engages but is yieldable to prevent damage if gear teeth do not immediately mesh and the possibility of breaking gear teeth upon power operation of delivery toward press is obviated. Invented by August A. Saul, Pittsburgh, Pa. Assigned to Miller Printing Machinery Co., Pittsburgh, Pa. Application May 20, 1941. 23 claims.

2,364,201. WEB-TENSION EQUIPMENT for printing presses in which the rotation of a web roll from which paper is fed is controlled by tension straps that apply braking pressure to the surface of the roll. In conjunction with each strap there is provided a running belt which may be disposed on the exterior of the portion of the strap through which braking pressure is applied to the roll, or the belt may replace such portion of the strap, the belt traveling with the surface of the roll so that there is no slippage which could mar the surface of the paper. Invented by Harland Fankboner, Chicago, Ill. Assigned to Allan J. Cline, Chicago, Ill. Application January 17, 1941. 8 claims.

2,364,888. WEB SLITTING MACHINE WINDING METHOD by which a plurality of completed reels of wound paper or fabric that has been slit may be removed on their common mandrel, intact, from the place of winding away from the operator and onto a special rearward support. At the same time, portions of the unwound strips are carried across an intermediate support where they are temporarily held against both longitudinal and transverse movement, serving as a guide for severance of the strips. The mandrel and reels are thereafter removed. The intermediate support, with strips remaining thereon, is then lifted and manipulated so as to use a portion of the support to wrap the strips about a new mandrel with empty reel cores. Finally the still loose strips are forced into engagement with winding mechanism to start all of the new reels simultaneously by means of the strips cut from the corresponding completed reels. Invented by John A. Aycock, Rock Hill, S. C. Assigned to Rock Hill Printing & Finishing Company, Rock Hill, S. C. Application January 23, 1943. 7 claims.

2,364,953. CORE CAP for facilitating the mounting of a roll on a printing press. The cap is formed of a one-piece, thin metal shell open at both ends for insertion of a scissors-shaped tool with outward hooks instead of blades to withdraw the cap from the core. A large circumference flange supports the core at the cap's outer end, and an inward, small flange serves as a shoulder for the tool at the cap's inner end. Continuity of the inner flange and body of shell is interrupted by slots extending from inner end of shell to points short of outer end of shell. Invented by Stewart N. Daley, Montreal, Quebec, Canada. Assigned to Canadian International Paper Co., Montreal, Quebec, Canada. Application August 24, 1942. 1 claim.

2,365,294. POWER-DRIVEN SHEET FEEDER for use adjacent a printing press. The feed board extends toward the machine to which sheets are to be fed and a combined drop guide and sheet detector device is carried by the front end of the feed board. The detector device includes a pivoted detector element and a pivoted drop guide element which move separately about a common pivotal axis. Means operated by the source of power for driving the feeder, under normal conditions intermittently swings the drop guide into and out of the path of sheets moving along the feed board. But when no sheet is presented to the detector element the operation of the drop guide is prevented. Invented by David P. Sanford, Elizabeth, N. J. Assigned to American Type Founders Incorporated, Elizabeth, N. J. Application May 11, 1942. 32 claims.

2,365,528. WEB JOINING APPARATUS for a rotary printing machine. Adhesion is effected by a pressure applying member so arranged that the adhesion can be accomplished quickly and with the elimination of vigorous shocks which jeopardize smooth operation. Tension of the web of the unwinding roll controls a brake, which in turn regulates the unwinding speed. Exhausting roll and new roll are rotated at the same peripheral speeds during web joining operation by a free wheel of known construction and a slip clutch that is provided between printing machine roller and web. A yieldingly mounted brush effects pressure in sticking operation. It is actuated by hydraulic or pneumatic pressure controlled by an electrical system containing a number of circuits and switches which, in turn, are controlled by cams secured upon the web roll shaft. Invented by Paul Dietrich, Augsburg, Germany. Vested in the Alien Property Custodian. Application February 16, 1940. 8 claims.

HOW TO ASSURE FINE METAL PERFORMANCE IN '45

YOU can ring in a happier New Year by being sure your photo-engraving plates are trademarked "ZOMO ELECTRIC ZINC" or "A-Z ALLOY".

These metals are made by the scientifically correct Electric Induction Process and are dependably uniform in quality — their composition, gauge and temper do not vary. They etch quickly and cleanly, and are preferred by the majority of discriminating photo-engravers in America.

So, for uniformly good results in 1945, specify ZOMO ELECTRIC ZINC and A-Z ELECTRIC ALLOY from your regular metal supplier.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

2,365,529. WEB JOINING APPARATUS which is a modification of that shown in the preceding patent. Invention relates to improvements by which the joining is done by means of a pressure applying brush at the end of a lever actuated by a piston or pistons which are moved by pneumatic or hydraulic pressure, controlled by an electromagnetically operated piston slide-valve or a valve system. Cylinder is mounted on an arm that is movable about the shaft for the lever supporting the brush. Upon actuation of this arm, the motion will be transmitted through the piston, piston rod and lever to the shaft for the latter, and the brush applied to the web without relative displacement of piston and cylinder, and without formation of a dead space. Invented by Paul Dietrich, Augsburg, Germany. Vested in the Alien Property Custodian. Application May 24, 1940. 4 claims.

2,365,645. MACHINE FOR CUTTING, COUNTING AND MARKING sheets of paper in multiples of any desired number, especially those divisible into 500 or 504, up to, and including, 18. Thin slips of paper or tags are automatically inserted after the count of each multiple and without the intermittent starting and stopping of the machine as shown in earlier patents, 1,611,476 and 1,611,762, by this inventor. The new machine obviates intermittent action, and consequent wear and tear upon ratchets and pawls, by providing a pocket of continuously operating cams. There is no mechanical limitation on the number of sheets that may be handled simultaneously because as many cams as desired may be used. Invented by Louis Landaff Matthews, Westerly, R. I. Assigned to Maxson Automatic Machinery Company, Westerly, R. I. Application January 3, 1941. 88 claims.

Miscellaneous:

2,363,614; 2,363,615; 2,363,616. POLYSULPHIDE AND ALDEHYDE COPOLYMERS useful for making printing rollers and blankets for printing newspapers, binders and adhesives, printing plates, and a great many other products where a rubber-like substance is suitable. An example of the process of the first patent is: An alkaline polysulphide BB' dichlorethyl ether is reacted with ethylene dichloride, whereby polymers having different properties are formed. The polymers are then reacted. Invented by Joseph C. Patrick, Morrisville, Pa. Assigned to Thiokol Corporation, Trenton, N. J. Applications April 12, 1939 (2,363,614) and June 6, 1940 (2,363,615 and 2,363,616). 35 claims, 8 claims, and 8 claims, respectively.

2,364,435. MANUFACTURE OF FILMS OF FUSIBLE POLYMERS useful as book binding and covers, as coating for cloth and paper, as photographic film base, and for other purposes. A molten film-forming synthetic linear polymer is extruded downwardly on a moving support, the temperature of which is below that of the molten polymer, through a slot orifice positioned a distance more than one-fourth inch from the support. Heat is applied to the molten film during its passage from slot orifice to support, and guided only along its edges to keep it extended during its passage from slot orifice to the moving support. The support is moved at a greater speed than the linear velocity of the polymer stream extruded through the slot orifice. Invented by Henry D. Foster, Wilmington, Del., and Arthur W. Larchar, Mendenhall, Pa. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application November 4, 1941. 11 claims.

2,365,569. SHEET SEVERING APPARATUS particularly designed for detaching successive edges from one end of a sheet which is advanced step by step. A base has a cutting edge over which the material is conducted. Several rollers are mounted for reciprocatory movement adjacent the edge. A flexible strip secured at its end on base, passes over one roller and under another, so as to trap leading end of paper to be detached between strip and one of rollers as they are moved along cutting edge. Material to be severed is pulled at an angle to the horizontal plane of sheet against the cutting edge by the movable rigid member as the latter is moved along the paper from one side of sheet to another, pulling the paper up or down against the severing edge and thereby severing the leading edge of paper. Invented by Allin Larmuth, Broad Oak Park, Worsley, England. Unassigned. Application October 28, 1943. 5 claims.

Plate Making:

2,363,493. PHOTOGRAPHIC PROCESS for producing blue-black tones in a silver image and which is useful for lithographic as well as cinema, radiographic and camera film. The agents used are open chain methylolamides including methylolureas wherein at least one methylol radical is attached to a nitrogen atom. The agents may be added to silver halide emulsion layers during any stage of process, for plates, films, photographic papers, etc. Invented by Walter D. Baldsiefen, Metuchen, N. J. Assigned by mesne assignments to E. I. du Pont de Nemours & Company, Wilmington, Del. Application June 13, 1941. 17 claims.

2,363,764. NEW PHOTOGRAPHIC STRIPPING ELEMENT for color photography, and method of releasably attaching light sensitive layers and/or dye intermediates or color former layers with a support. At least one color yielding unit is releasably attached to the support by a water-soluble adhesive, the unit comprising a light-sensitive halide layer and at least one coacting, light-sensitive, water-permeable, separate layer comprising an immobile dye intermediate capable of forming both an azo dye and a dye such as indophenol, indoaniline and azomethine dyes. Invented by Clayton F. A. White, Stelton, N. J. Assigned by mesne assignments to E. I. du Pont de Nemours & Company, Wilmington, Del. Application August 1, 1940. 21 claims.

2,364,017. PROCESS FOR IMPARTING BLUE-BLACK TONES to developed photographic images, useful similarly as the process described in patent 2,363,493, above. Methylol-nitromethanes are used in the production. The agents are brought into association with the silver salt layers at some stage of the manufacture or processing of photographic elements. They may be added to silver halide emulsions or photographic elements such as plates, films or photo paper containing emulsion layers prior to development of the elements. Invented by Walter D. Baldsiefen, Metuchen, N. J. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application March 6, 1943. 14 claims.

2,364,032. FINISHING AND COOLING MACHINE for stereotype plates. After inspection, the plates are allowed to pass into the machine where the concave surface of the semi-cylindrical plate is shaved and the beveled edges are trimmed. The machine is arranged on an incline so that plates will be carried by gravity from station to station for finishing. One station is arranged for finishing the concave surface and a shaving arch is above such station to which plate may be lifted and clamped. Rollers are carried by lifting means for supporting the plate as it enters or leaves the station below shaving arch, the rollers moving out of contact with plate as it is lifted and into contact therewith as it is lowered. Invented by Henry A. Wise Wood, New York, N. Y., and Paul L. Tollison, North Plainfield, Charles L. Ricards, South Plainfield, and John A. Isbell, Plainfield, N. J. (Elizabeth Ogden Wood, Executrix of Henry A. Wise Wood, deceased.) Assigned to Wood Newspaper Machinery Corporation, Plainfield, N. J. Application January 17, 1939. 5 claims.

2,364,379. COLOR CORRECTION PROCESS in which a natural-color photographic print of normal contrast and satisfactory color rendition is produced by forming cyan, magenta and yellow images in a multilayer material by initial color-forming development steps in which the cyan developer contains approximately one-sixth the amount of coupler necessary to form a dye image of normal contrast, and the yellow developer contains the full amount of coupler necessary to form an image of normal contrast. The images are printed onto a second multilayer material and images are developed by further steps in which the cyan developer contains approximately twice the amount of coupler necessary to form a dye image of normal contrast, and the yellow developer contains, as before, just the amount of coupler necessary to form an image of normal contrast. Invented by Leopold D. Mannes, New York N. Y., and Leopold Godowsky, Jr., Westport, Conn. Assigned to Eastman Kodak Company, Rochester, N. Y. Application November 23, 1940. 1 claim.

2,365,416. PHOTOGRAPHIC LIGHT SENSITIVE MATERIAL consisting of a film-forming linear superpoly-

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Printing Inks and Related Chemicals:

2,363,537. COLORING TEXTILE MATERIAL by developing on the fiber an azo dye of the phthalocyanine series. The color may be developed in local designs by printing from an engraving roll. The process comprises impregnating the fiber with azotized polyamino-phthalocyanine, for instance by treating the fiber with an aqueous solution of the diazonium compound at 0—30° C., and then developing the color on the fiber with the chosen coupling component, for instance by rinsing the impregnated cloth in cold water and then treating it with a solution containing water-solubilizing groups, such as carboxylic acid, sulfonic acid, etc. This patent is related to patents 2,351,118-9 which concern the manufacture of pigments, as reported in the July Printing Equipment Engineer. Invented by James William Libby, Jr., Louisville, Ky. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application January 8, 1943. 9 claims.

2,363,794. PROTEIN COMPOSITIONS that are resistant to coagulation by formaldehyde and other aldehydes. They are useful in paints, inks, in coating solutions for cloth and paper, etc. The protein of soy beans is hydrolysed and the more the protein is hydrolyzed the greater is the retardation of gelling. The hydrolysis can be effected by any of the usual methods. An aqueous solution is formed of the hydrolyzed protein in amounts from 10 to 16% by weight of the water employed, and an aldehyde is incorporated which commonly reacts with protein in an amount equivalent to from about 10% to 40% of formalin by weight of the protein. Invented by Percy L. Julian, Maywood, Elmer B. Oberg, Evanston, and Bernard T. Malter, Chicago, Ill. Assigned to The Glidden Company, Cleveland, Ohio. Application April 8, 1939. 14 claims.

2,363,905. AZO PIGMENTS OF THE PHTHALOCYANINE SERIES which may be melted in lithographic varnish to produce an ink. They may be developed on a fabric or developed in substance and applied to a fabric in the form of a printing paste. A water-soluble salt, such as an acetate of a metal such as copper, nickel, cobalt and chromium, is reacted with an azo compound obtained by coupling an azotized tetra-amino-copper-phthalocyanine to an azoic coupling component. Invented by James William Libby, Jr., Louisville, Ky., and Harold Edward Woodward, Penns Grove, N. J. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application January 8, 1943. 12 claims.

2,363,906. AZO PIGMENTS OF THE PHTHALOCYANINE SERIES, similar in aspect to those described in patent 2,363,905, above. The pigments are here prepared by coupling an azotized form of a polyamine-phthalocyanine compound to an aromatic compound having an ortho-hydroxy-carboxy grouping and at least one free couplable position. Invented by Swanie Siguard Rossander, Wilmington, Del., James William Libby, Jr., Louisville, Ky., and Harold Edward Woodward, Penns Grove, N. J. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application January 8, 1943. 15 claims.

2,363,910. HYDROCARBON DRYING OILS. Drying oil polymers are synthesized together with useful by-products by a low temperature catalytic polymerization of alkyl-alpha-acetylenes. The compounds are useful in inks, lacquers, paints, coating compositions, lubricating oils, molding compositions, etc. Catalysts such as halides of aluminum, boron, zinc, iron, titanium and tin are used in the process. The temperature should be about −10° C. Invented by Miller W. Swaney, Cranford, N. J. Assigned to Standard Oil Development Company, New York, N. Y. Application July 2, 1941. 11 claims.

2,364,349. ANTHRAQUINONE COMPOUNDS useful in coloring organic derivatives of cellulose. The compounds may also be sulfonated and used as a wool dye. Coloration can be effected by dyeing, printing, stenciling or other suitable methods. A leuco anthraquinone, such as leuco quinizarin, is reacted with an amine, such as an aliphatic sulfone or aliphatic sulfoxides. Invented by Joseph B. Dickey, Rochester, N. J. Assigned to Eastman Kodak Company, Rochester, N. Y. Application October 7, 1941. 3 claims.

2,364,351. QUINAZOLINE AZO COMPOUNDS useful in dyeing, printing or stenciling cotton, wool, casein wool, lacquers, etc. They are prepared by diazotizing diazotizable aromatic amines and coupling the diazonium compounds obtained with a tetrahydroquinazoline compound, substituted in its one position with a member selected from the group consisting of an alkyl group, a cycloalkyl group, and a furfuryl group, having no substituent which would prevent coupling. Invented by Joseph B. Dickey, Rochester, N. Y. Assigned to Eastman Kodak Company, Rochester, N. Y. Application September 17, 1942. 5 claims.

2,364,359. DEVELOPABLE AZO PUTTY COMPOSITION suitable for planographic printing of textiles. It comprises a diazo compound stabilized against azoic coupling in alkaline medium, a coupling component, and a hydrophilic carbohydrate gum. The putty is hard at room temperature, thermoplastic, and has a long softening range, the carbohydrate gum being the main bodying constituent. Bentonite gel, mono-glycerides of higher fatty acids, and various other compounds are used. Invented by Roy Herman Kienle and Chester Albert Amick, Bound Brook, and Clarence Clifton Kerns, Middlesex Boro, N. J. Assigned to American Cyanamid Co., New York, N. Y. Application November 6, 1940. 20 claims.

2,364,692. TEXTILE PRINTING EMULSIONS. The use of pastes made in accordance with this invention permits the use of cheap pigments and avoids the after treatment necessary with conventional printing pastes. The problem of pigment distribution in dilute pigmented lacquer dye baths is overcome, and the properties of water-in-lacquer emulsion pastes are improved. The method comprises the use of multiple phase emulsions in which water is one phase, a concentrated pigmented resin-solvent aggregate is another phase, and a lacquer of very low solids content, which is only partially miscible with pigmented resin-solvent lacquer from which aggregate is formed, is a third phase. Invented by Norman S. Cassel, Ridgewood, N. J. Assigned to Interchemical Corporation, New York, N. Y. Application August 3, 1940. 7 claims.

2,364,725; 2,364,726. IMPROVED WET-FASTNESS and/or light-fastness of prints and dyes is obtained by using in the aftertreatment of copper salts, (1) the aqueous solution of high-molecular basic compounds (an example: muheptadecyl-N:N-dimethylbenzimidazolium chloride), and (2) the aqueous solution of the high-molecular condensation products from formaldehyde and nitrogen-containing compounds (such as melamine). The copper salts may be sulphate, nitrate, chloride and acetate. Invented by Albert Landolt, Riehen, and Andreas Ruperti, Arlesheim, Switzerland. No. 2,364,725 assigned to Society of Chemical Industry in Basle, Basel, Switzerland. No. 2,364,726 assigned by mesne assignments to Ciba Products Corporation, Dover, Del. Original application October 13, 1939. Divided and application for the second patent June 12, 1940. 8 and 5 claims, respectively.

2,364,738. PIGMENT PRINTING PASTE containing as the pigment binder modified polyvinyl alcohol, and about .1% to 1% of an alginate, preferably in admixture with a setting agent for the polyvinyl alcohol, such as formaldehyde or a water-soluble carbamide resin. The paste has sufficient body to be printable from a printing plate. Invented by Carl M. Marberg, Elmhurst, and Earl K. Fischer, Long Island City, N. Y. Assigned to Interchemical Corporation, New York, N. Y. Application October 18, 1941. 2 claims.

2,365,171. CHROME YELLOW PIGMENTS of improved light fastness are prepared by treating a lead chromate pigment with hydrous oxides of aluminum and an element from the fourth group of the periodic table. The pigments are useful in printing inks, enamels, lacquers, etc. Invented by Edmond Charles Botti, Brooklyn, N. Y. Assigned to E. I. du Pont de Nemours & Company, Wilmington, Del. Application June 3, 1942. 20 claims.

(*Continued on Next Page*)

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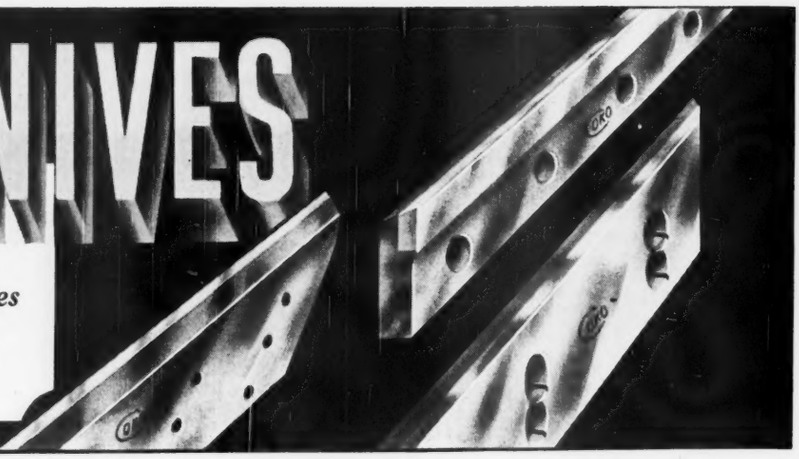

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2,365,345. N-SUBSTITUTED AMINONAPHTHOL DYE INTERMEDIATES. In particular the invention pertains to those intermediates wherein the hydroxyl group is in one ring and the other contains a substituted amino group. The dyes produced from immobile 1-amino-5-naphthol derivatives of this invention are important in processes of multicolor photography because they provide one of the few methods of obtaining minus red (i. e. blue-green) mono-azo dyes where the proper diazonium compounds are used. They can also be made substantive to cotton or wool or convertible to water-insoluble pigments for use in textile dyeing, paints, and ink manufacture. Invented by James Emory Kirby and David W. Woodward, Wilmington, Del. Assigned by mesne assignments to E. I. du Pont de Nemours & Company, Wilmington, Del. Application May 27, 1941. 6 claims.

2,365,356. PROCESS OF MANUFACTURING NICKEL FLAKE by electro-deposition produces nickel flake of appropriate fineness, thinness and leafing characteristics for use with suitable vehicles to replace aluminum flake. Principal advantage of nickel flake pigment over aluminum flake pigment is nickel's superior resistance to corrosion, particularly by alkalis and chlorides, and also its more subdued gray color in contrast to aluminum's metallic bluish-white. This corrosion resistance and lack of glare make the new nickel pigment particularly suitable to naval uses as a paint but it may also be applied by printing as well as by brushing and spraying. Invented by Norman Boden Pilling, Westfield, and Andrew Wesley, Plainfield, N. J. Assigned to The International Nickel Company, Inc., New York, N. Y. Application July 15, 1941. 4 claims.

2,365,363. WOOD GRAINING INK for printing simulated grains on cheap woods by means of a resilient roll bearing the ink in the desired grain pattern from contact with an intaglio cylinder. This special ink does not bleed along the wood fibers but does become quickly absorbed and bonds tightly to all usual ground and top coatings without shelving or embossing. Vehicle consists of the esterification product of an aliphatic monohydric alcohol diether having hydrocarbon chains up to four carbon atoms in length and the product obtained by reaction of an acyclic olefinic acid having less than ten carbon atoms in its carbon chain, and anhydrides and esters thereof with a drying oil. For dark wood effects, such as Mahogany and Walnut, carbon black and bone black are included in the pigment. Invented by Raymond A. Swain, Bellevue, Ky. Assigned to Interchemical Corporation, New York, N. Y. Application May 20, 1941. 4 claims.

2,365,455. TREATMENT OF REGENERATED CELLULOSE to render it soluble in aqueous alkaline solutions. The product is useful in treatment of textiles, as thickeners for inks, and as sizing for paper. To make it soluble in aqueous solutions, the cellulose is treated with an oxidizing agent such as sodium hypochlorite, nitric acid, chromic acid, permanganic acid, etc. Invented by Ralph T. K. Cornwell, Fredericksburg, Va. Assigned to Sylvania Industrial Corporation, Fredericksburg, Va. Application January 19, 1942. 6 claims.

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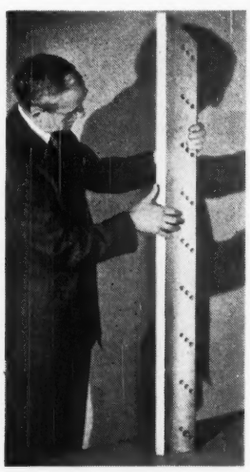

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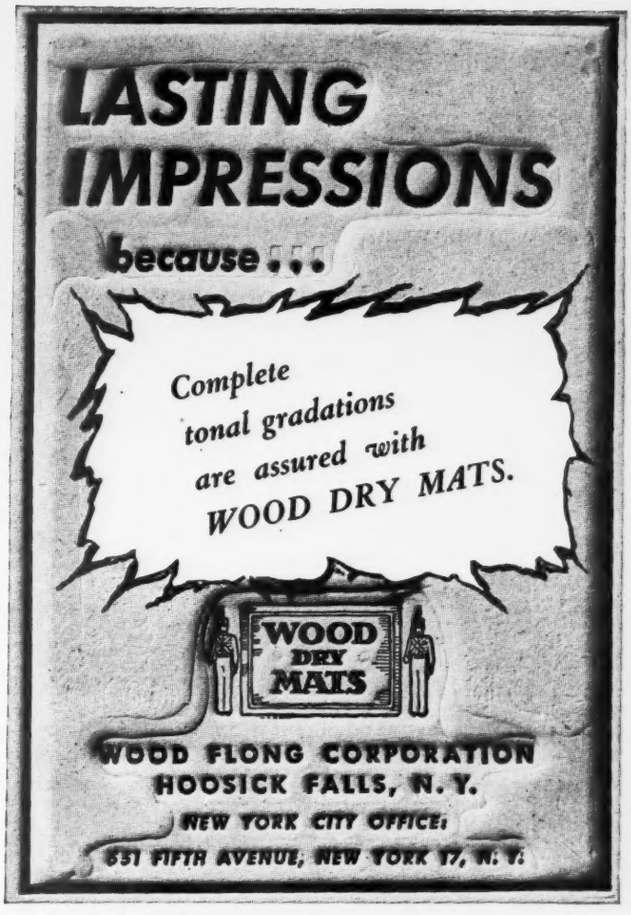
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WPB News

(Continued from Page 30)

the division to meet any shortages in print paper by an equitable cut in each segment of the industry. Paper inventories are now too low to rely upon, and if supply and demand become too greatly out of balance, the alternative will be to reduce usage, he said, adding that if the shortage was around 100,000 T. a 5% additional cut might have to be imposed on all printers and publishers. This would mean an order limiting commercial printers to 70% of their use of paper in the base period 1941, it was explained.

Everything possible is being done by WPB to insure paper production and conservation, Mr. Ross said, outlining the procedure by which all claimant agencies' requests for paper are screened as to essentiality. A suggestion was made that the printing industry might redistribute available paper through its associations in different regions of the country. Such exchanges would tend to reduce excessive inventories and aid those which were low, it was pointed out.

A task group, which had been appointed to make a study of the problems confronting the commercial printers on and after "Victory-in-Europe," Day recommended that careful consideration be given to proposed revocation of any limitation orders because the sudden removal of controls on paper usage might result in chaos, but said that it was desirable to relax controls as soon as adequate pulp and paper were available. Appointment of a member of the commercial printing committee to the overall printing and publishing committee to consider the problems of relaxing paper control orders, was also recommended.

Following unanimous approval by the committee of the report, the task group was asked to continue its study and to report to the full committee at its next meeting, scheduled tentatively for January 24, 1945.

The committee was given a draft of proposed basic standards to be used in the event commercial printers file appeals for additional paper quotas. Adoption of such appeal standards was believed desirable by WPB, since similar standards are used by the other printing and publishing segments when requests for extra-quota paper are made to the WPB Appeals Board, it was stated. Recommendations from each member of the committee were requested by December 10.

Proposed amendments to Orders L-240 covering newspapers, and L-241 controlling commercial printing, involving clarification of types of pony, over-seas, and special editions of newspapers and promotional matter, and publications within the purview of each order, were discussed.

The necessity of paper conservation and the salvaging of all possible waste paper was stressed by Government officials, who stressed the continuing need for paper and paperboard of all types so long as the wars in Europe and in the Pacific continued. In general, WPB representatives said, the commercial printing industry was cooperating nearly 100 per cent, and few compliance difficulties had been reported, particularly among the large paper users in the industry.

Revise Definition of Paper Products Converter

A CONVERTER of paper products is anyone who manufactures any such products from pulp, paper or paperboard, altering their original characteristic forms, according to a revised definition in Conservation Order M-241-a as amended by the War Production Board on December 19. Formerly the definition included anyone who manufactured or assembled any converted product, it was explained by WPB Paper Division officials, who pointed out since assembling was not a converting operation, it was eliminated from the definition.

The order was also amended by deleting "paper stationery and papeteries" from List B, which permitted the manufacture of such items at the rate of 100% of the 1942 production, since they are covered by the restrictions governing the manufacture of envelopes.

Process (Machine) Coated Basis Weight Fixed

THE basis weight of process (machine) coated book papers was fixed on December 13 for use in commercial

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printing and book publishing by an amendment to WPB's simplification and standardization paper Order L-120.

For use in commercial printing, standard basis weights, per 500 sheets 25 in. by 38 in. are 45, 50, 60, and 70 lbs. providing the basis weight of the body stock is no heavier than 45 lbs., as now set out in Schedule I of the order.

For use in book publishing the permitted maximum basis weight is 60 lbs. and any heavier finished basis weight, provided the basis weight of the body stock is not heavier than 45 lbs. This amendment is effected by revised Schedule II of the order.

The amendment to Schedule I, it was pointed out, clarifies a previous amendment on November 2, 1944, while the amendment to Schedule II makes the basis weight similar to that in Schedule I.

Denied WPB Assistance for Two Months

BECAUSE of unauthorized use of almost 31,000 lbs. of prime grade steel, the Stuart Bible Co., of Cincinnati, O., manufacturers of Bibles with steel covers, has been denied priorities assistance and allotment or allocations of critical products under War Production Board controls for a period of two months, the Compliance Division of WPB said early in December.

The steel sheets, 4 by 5 in. in size, covered Bibles that were sold through civilian and service men's shops, to friends and relatives of persons in the armed forces, who ultimately received the books, WPB said.

Newsprint Situation First Six Months 1945

THE prospect of an increasingly tight newsprint supply situation in the first six months of 1945 was outlined to the members of the Newspaper Industry Advisory Committee by WPB officials at their recent meeting, it was reported on December 13.

This situation has developed in spite of the fact that Canada has committed herself to deliver 200,000 T. of newsprint per month, the same rate that she delivered in 1944, WPB officials said. The

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shortage in the first half of 1945 will be caused by increased military demands for paper and requirements of the liberated areas of Europe, they indicated.

WPB officials reported that stepped-up demands of the Army for ammunition also will affect the pulp and paper supply of American newsprint users.

A slightly better supply of newsprint after July 1, 1945 may be in prospect if winter weather conditions permit Canada to increase her deliveries to the United States by about 5%. This would allow an additional 10,000 T. of newsprint a month after July 1 for all purposes, but requirements for liberated areas for both pulp and paper would be added to the load which must be carried by the present U. S. supply. WPB officials expect, therefore, that by the second quarter of 1945, if not before, the situation may become so critical as to indicate a further cut in the amount of newsprint available for U. S. newspaper publishers.

Will Repay Overconsumption

THE Knoxville (Tenn.) *Journal*, has consented to repay by the end of 1945 an overconsumption of 214 T. of newsprint used in 1943-44, the Compliance Division of the War Production Board announced on December 12.

WPB Consent Order C-233, effective December 12, 1944, and expiring December 31, 1945, charged the Knoxville *Journal* with violating Limitation Order L-240, when it used 214 T. of newsprint in excess of its quota during the second and fourth quarters of 1943 and the first and second quarters of 1944, Compliance Division officials said.

WPB directed the Knoxville *Journal*: (1) To cut 26¾ T. from its usual consumption of newsprint during the remainder of 1944; (2) To reduce its paper consumption by 53½ T. for each of the first three quarters of 1945, and (3) To use 26¾ T. less than its usual paper consumption during the final quarter of 1945.

Two Firms Penalized for Paper Violations

A TOTAL of 1,042,826 lbs. of paper consumed by Literary Classics, Inc., New York, N. Y., and Books, Inc., Clinton, Mass., in violation of War Production Board regulations will be restored to the war effort by a consent order directing both publishers to reduce their paper usage by this amount during 1944 and 1945, the Compliance Division of WPB announced on December 5. This is the largest paper repayment ever ordered, WPB explained.

WPB Consent Order C 221 directs Literary Classics, Inc., to put no paper into process for book production until its over-consumption of 699,842 lbs. has been made up, the Compliance Division said. This action will prevent Literary Classics, Inc. from using any paper for book publishing until the first of 1946, if Order L-245 remains unchanged. Consent Order C-221 requires Books, Inc. to reduce its consumption quota by 9,000 lbs. in 1944, 149,719 lbs. in the first quarter of 1945, and 184,265 lbs. in the second quarter of 1945, making a total repayment of 342,984 lbs. on the part of Books, Inc.

The compliance order was consented to by both corporations as the result of a settlement agreement entered into by them, WPB said. Each corporation had claimed to be the publisher, during the base year 1942, of a series of books known as "The Masters' Standard Library of Classics" for which more than 2,000,000 lbs. of paper were used. During 1943 and early 1944, each corporation operated on the assumption that it was entitled to include this paper in its base tonnage. This resulted in the total over-consumption by both corporations of more than 1,000,000 lbs. of paper.

The two corporations admitted the WPB allegation that they were not both entitled to compute their consumption quotas on the basis of the total amount of paper used in printing "The Masters' Standard Library of Classics," WPB reported.

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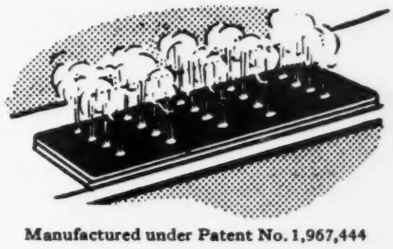
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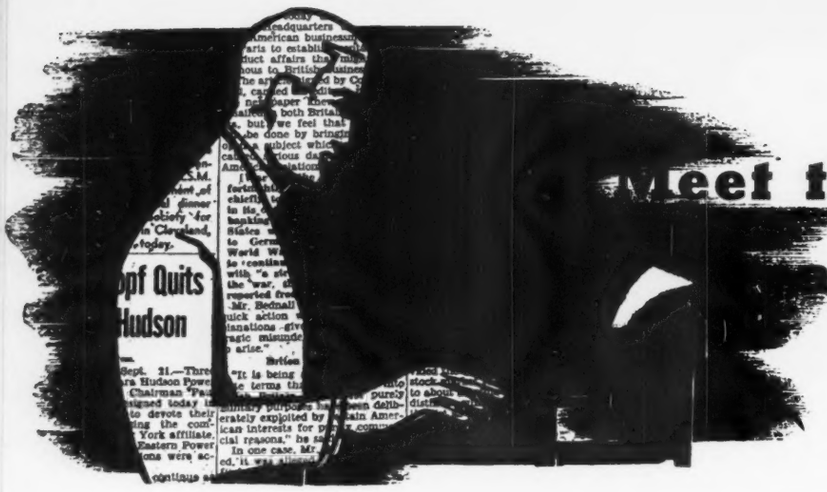

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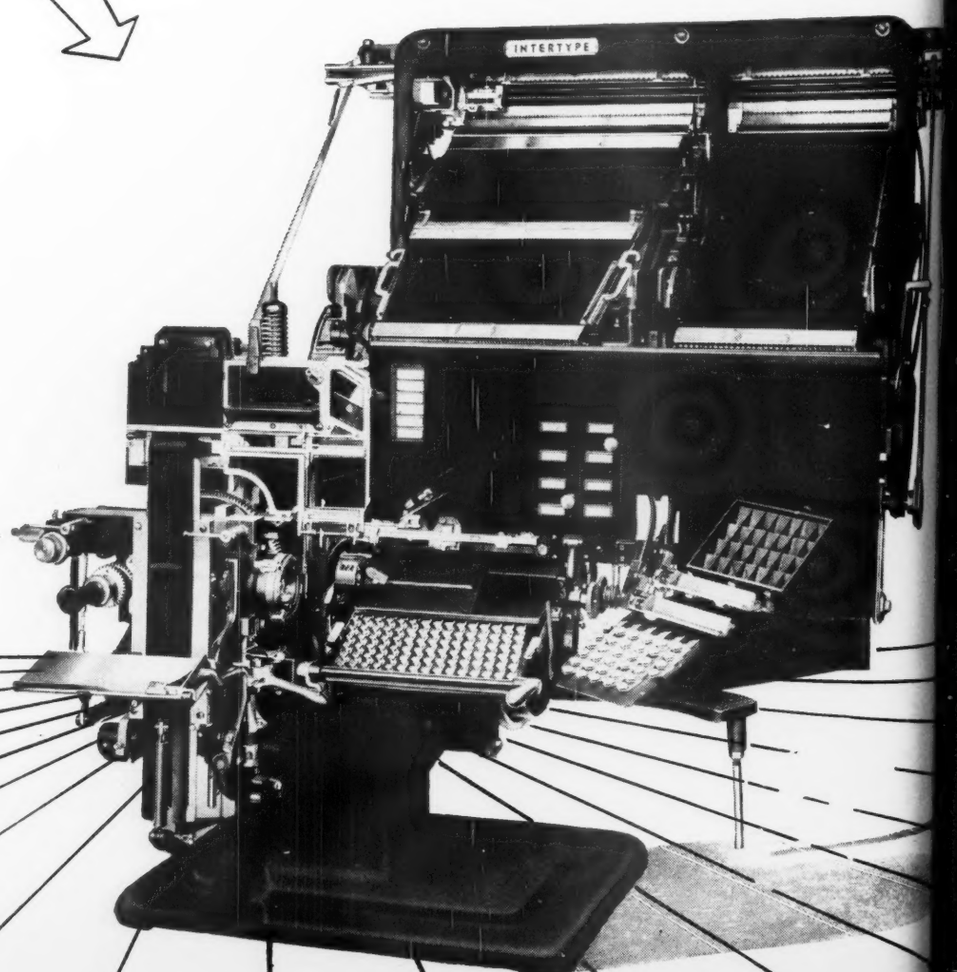

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